

**QUARTERLY MONITORING REPORT
ACTIVE TREATMENT SYSTEMS
FIRST QUARTER 2003**



446842

**AMERICAN CHEMICAL SERVICE NPL SITE
GRIFFITH, INDIANA**

MWH File No. 2090601

Prepared for:

American Chemical Service NPL Site RD/RA Executive Committee
Griffith, Indiana

Prepared by:

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September 2003

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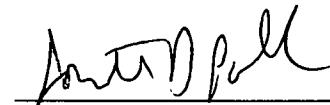
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Prepared For:

**American Chemical Service NPL Site RD/RA Executive Committee
Griffith, Indiana**

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1.0 INTRODUCTION

MWH, on behalf of the ACS RD/RA Executive Committee, started up the on-site groundwater treatment system at the American Chemical Service NPL Site (ACS Site) in Griffith, Indiana on March 13, 1997. The groundwater treatment plant (GWTP) system was designed to treat groundwater from the Perimeter Groundwater Containment System (PGCS) and the Barrier Wall Extraction System (BWES). The original treatment consisted of a phase-separator for oil and free product removal, equalization tanks, a UV oxidation unit for destruction of organic constituents, and an air stripper to remove methylene chloride and other organics. The treatment also included a chemical precipitation and clarification unit to remove metals, a sand filter to remove suspended solids, and activated carbon vessels for final polishing of the treated groundwater before it was released to the west of the site.

In 2001, an activated sludge treatment unit was added to the process to reduce the volatile and semivolatile organic compounds (VOCs and SVOCs) in the collected groundwater. The activated sludge treatment process also reduces the amount of activated carbon required to treat the water. An aerated equalization tank was also added to the GWTP in 2001 to remove VOCs from the collected groundwater, oxidize metals to increase metals removal efficiency in the chemical precipitation unit, and equalize groundwater flow through the GWTP. The activated sludge system and aeration tank have been fully integrated into the process along with the other upgrade components. Startup and optimization of the catalytic oxidizer/scrubber air treatment unit was also conducted during 2001.

The treated effluent from the treatment system is discharged to the nearby wetlands, west of the treatment system, in accordance with Agency approvals.

In the fall of 2001, MWH began construction of an In-Situ Vapor Extraction (ISVE) system for the Off-Site Containment Area (OFCA) and the Kapica-Pazmey (K-P) Area, both within the area known as the Off-Site Area, which consisted of 42 ISVE wells, blower system, a thermal oxidizer/scrubber unit, and associated mechanical and electrical components. The construction of the system was completed at the end of March 2002 and the system was started on May 1, 2002. System operation began on May 1, 2002 after the startup of the thermal oxidizer and scrubber system was completed. Protocols and goals for the phased startup of the Off-Site System as defined in the Final Remedy (Montgomery Watson, 1999) were followed.

The goals of the initial system operation (0 to 12 months) as defined in the Technical Memorandum for ACS Off-Site ISVE System Evaluation (MWH, July 2003) were:

1. To establish all wells were constructed properly and had maintained their integrity throughout subsequent site activities (Wellfield Evaluation); and
2. To evaluate the capability of the system to meet system performance goals as established by the Final Remedy (System Evaluation).

This Active Treatment Systems report summarizes effluent analytical data, catalytic oxidizer/scrubber and thermal oxidizer off-gas analytical data, ISVE process monitoring data, and water level gauging data collected from January 2003 through March 2003. This report also details modifications or upgrades to the active treatment systems during the reporting period.

2.0 GWTP COMPLIANCE MONITORING

2.1 INTRODUCTION

Effluent samples are collected on a regular schedule from the treatment system to demonstrate compliance with the discharge limits (Table 2.1) established by Indiana Department of Environmental Management (IDEM) and United States Environmental Protection Agency (U.S. EPA). The approved PSVP requires quarterly effluent sampling for biological oxygen demand (BOD), total suspended solids (TSS), SVOCs, metals, and polychlorinated biphenyls (PCBs) in the system, and monthly effluent sampling for pH and VOCs, as shown in the table below. In accordance with the Performance Standard Verification Plan (PSVP), a full monthly effluent compliance sample was collected during January and analyzed for all of the analytes listed above. During February and March, the monthly effluent compliance samples were analyzed for VOCs and pH only.

Sampling and analyses were performed in accordance with the Quality Assurance Project Plan (QAPP) prepared by MWH for the ACS RD/RA Executive Committee in March 2001 and approved by the Agencies in November 2001. Quality control measures were also instituted in accordance with the PSVP. The following table and paragraphs present details on sampling and analyses, and also summarize the analytical data for the treatment system effluent.

Sampling Frequency Schedule – Groundwater Treatment System

Analytes	Cumulative Time From Startup*	Frequency
Flowrate	–	Continuous
BOD, TSS, SVOCs and Metals	181 days onward	Once per quarter
VOCs and pH	31 days onward	Once per month
PCBs	181 days onward	Once per quarter
PCBs in Sediment (one location)	–	Once per year

*Note: System was started up on March 13, 1997

2.2 EFFLUENT SAMPLING AND ANALYSES

Effluent samples were collected each month during the first quarter 2003. Samples were collected on the following dates and analyzed for the listed analytes for this reporting period:

- | | |
|-------------------|--|
| January 23, 2003 | full analysis (pH, TSS, BOD, Metals, VOCs, SVOCs, pentachlorophenol, and PCBs) |
| February 20, 2003 | pH and VOCs |
| March 13, 2003 | pH and VOCs |

The above samples were collected directly from a sample tap on the effluent line of the treatment system. The samples were placed in contaminant-free containers, in accordance with the U.S. EPA Specifications and Guidance for Obtaining Contaminant-Free Sample Containers (U.S. EPA, 1992). Appropriate sample containers and preservatives, as specified in the QAPP, were used to collect and preserve the samples. Following sample collection, the temperature of the sample containers was maintained at or below 4°C in coolers. Chain-of-Custody forms were prepared to track the transfer of samples from the treatment system to the laboratories. In accordance with the approved QAPP, the effluent water samples were analyzed for the following parameters by the following analytical methods:

<u>Parameter</u>	<u>Analytical Method</u>
VOCs	SW-846 8260B
SVOCs	SW-846 8270C
Pentachlorophenol	SW-846 8270C and SIM
Pesticides/PCBs	EPA 608/SW-846 8081/8082
Metals (Excluding Mercury)	SW-846 6010
General Water Quality	
Parameters (TSS and BOD-5)	EPA 160.2 and 405.1
Mercury	SW-846 7470
pH	EPA 150.1

2.3 EFFLUENT ANALYTICAL RESULTS

The GWTP effluent monitoring data, summarized in Table 2.2, verify that the system effluent was compliant with the discharge limits presented in Table 2.1. No exceedences were reported. The analytical data sheets for the compliance samples are provided in Appendix A.

Compuchem Laboratory of Cary, North Carolina performed the analysis of the samples. Laboratory Data Consultants (LDC) of Carlsbad, California performed third party data validation in accordance with the U.S. EPA National Functional Guidelines for Organic/Inorganic Data Review. Validation qualifiers are listed in Table 2.2 and are written in the margin of the analytical data sheets provided in Appendix A.

2.4 CATALYTIC OXIDIZER/SCRUBBER SAMPLING AND ANALYSIS

MWH began eight initial rounds of off-gas sampling of the catalytic oxidizer/scrubber described in the Performance Standard Verification Plan (PSVP) (MWH, April 1997) during April 2002. The eight rounds of sampling were completed during the third quarter 2002. One sample was collected in October 2002 to verify the continued performance of the system. The off-gas was also sampled in December 2002 after repairs were made to the catalytic oxidizer/scrubber unit to ensure the unit was working properly. As discussed in the November 2002 monthly status report, the off-gas sample from the catalytic oxidizer/scrubber will be sampled annually, in accordance with Indiana Department of Environmental Management (IDEM) regulations and the PSVP. The 2003 annual sample is scheduled for June.

3.0 OFCA/KP AREA ISVE SYSTEM MONITORING

Thermal Oxidizer Off-Gas Sampling

In January 2002, a thermal oxidizer/scrubber (therm-ox) unit manufactured by Durr Engineering (Durr) was installed in the GWTP to treat the vapor collected by the Off-Site Area ISVE systems. Monthly compliance sampling began in April 2002 when the system was fully operational. In the first Quarter of 2003, compliance samples were collected on January 16, February, 13, and March 6. Influent and effluent off-gas samples were collected directly from sample taps on the influent pipe to the thermal-oxidizer and the discharge stack of the scrubber. One influent sample (labeled IN1) and one effluent sample (EF1) were collected. A duplicate influent sample (IN2) was also collected. The samples were collected to comply with the PSVP and QAPP and in accordance with laboratory guidelines. The VOC samples were collected using a summa canister and the SVOC samples were collected in sorbent tubes.

Sampling Frequency Schedule – ISVE System

Startup	Weekly for a four week period
Post-Startup	Monthly in accordance with the IDEM Air Permit Equivalency

Following sample collection, the SVOC sample containers were maintained at or below 4°C in coolers. Chain-of-Custody forms were prepared to track the transfer of samples from the treatment system to the laboratories for extraction and analysis. In accordance with the approved QAPP, the off-gas samples were analyzed by the following analytical methods:

<u>Parameter</u>	<u>Analytical Method</u>
VOCs	TO-14
SVOCs	TO-13

Sampling Results

The influent and effluent off-gas data summarized in Tables 2.3 and 2.4, verify that the off-gas from the thermal oxidizer was less than the IDEM discharge limit of three pounds per hour VOC discharge for January and February. Due to a field sample collection error, the March VOC effluent sample was not properly collected. Additional quality control measures have been implemented so that this error will not recur in the future. The analytical data sheets for the compliance samples are provided in Appendix B.

Air Toxics Laboratories of Folsom, California analyzed the samples. The analytical results are summarized in Tables 2.3 and 2.4. MWH performed data validation in accordance with the QAPP and the National Functional Guidelines for Organic/Inorganic Data Review. Validation qualifiers are listed in Tables 2.3 and 2.4 and are written in the margin of the analytical data sheets provided in Appendix B.

ISVE System Monitoring

Performance monitoring of the ISVE system was conducted in accordance with the PSVP (Montgomery Watson, June 1999). Extracted vapor flow rates and vacuums at individual ISVE wells and headers were collected on a routine basis. Additionally, VOC concentrations were measured at individual wells and headers using a flame/photo ionization detector (FID/PID).

The information collected during performance monitoring is used to evaluate and optimize the ISVE system. Data collected during the first quarter of 2003 is presented in Tables 2.5 and 2.6.

4.0 GWTP TREATMENT SYSTEM PROCESS MODIFICATIONS

During the first quarter of 2003, minor modifications were made in the GWTP treatment system process. The modifications are summarized below.

New piping was installed to allow the GWTP off-gas to be treated by either the thermal oxidizer or the catalytic oxidizer. This piping will allow the vapors from the aeration tank and each ISVE system to be directed to any of the air treatment units (catalytic oxidizer unit or either thermal oxidizer units) to increase operational efficiency and provide redundancies. For the GWTP this will result in sufficient air treatment capacity to operate all of the SBPA dual phase wells simultaneously. Programming of the interlocks for this piping reconfiguration are scheduled to be completed in the second quarter of 2003.

The packing in the CPI oil-water separator was replaced on March 12. This was done as part of routine maintenance in the GWTP.

Ryan Construction installed two sumps near the catalytic oxidizer and the thermal oxidizer to collect potential condensate and wash water from these units. The condensate and wash water will be collected by the GWTP's sump system and treated.

5.0 OFCA/K-P AREA ISVE PROCESS MODIFICATION

Regular maintenance was performed on the Off-Site Area ISVE System components during the first quarter of 2003. However, no process modifications were done to the Off-Site Area ISVE system during the first quarter of 2003.

6.0 PGCS AND BWES GAUGING ACTIVITIES

The Perimeter Groundwater Containment System (PGCS) groundwater extraction trenches were operated in "auto" mode continuously throughout the first quarter 2003. In "auto" mode, the PGCS extraction wells will pump continuously unless there is a high water level in Aeration Equalization Tank (T-102) or a low water level in individual extraction wells. This mode is used to control the flowrate through the treatment system while at the same time creating an inward gradient along the PGCS trench. The GWTP also received influent from the On-Site and Off-Site components of the Barrier Wall Extraction System (BWES) during the first quarter 2003. Groundwater extraction was also started from the SBPA dual-phase extraction (DPE) wells on February 11, 2003.

In accordance with the PSVP for the Site, a discussion on the effect of the PGCS and BWES on the water table near the Site is presented in each quarterly monitoring report. This section summarizes the groundwater elevations at the site during January, February, and March 2003. Groundwater elevation measurements were collected throughout the Site on March 24, 2003 as part of the groundwater monitoring program. The groundwater elevations and resulting contours outside the barrier wall are shown in Table 4.1 and on Figure 4.1. The water table contours shown on Figure 4.1 indicate that the PGCS continues to create a "trough" in the water table, which acts to contain groundwater flowing around the northern edge of the barrier wall.

The barrier wall was constructed to contain a contaminated zone under the Site, and the BWES was installed to dewater the Site for the ISVE system. Piezometers were installed in pairs, one piezometer of each pair on either side of the barrier wall, spaced along the barrier wall alignment. This allows measurement and tracking of water levels in order to ensure that the barrier wall is serving its designed function.

Table 4.1, BWES Water Level and Piezometer Pairs, presents the groundwater elevations inside and outside the barrier wall on March 24, 2003. They are illustrated on Figure 4.2. The groundwater elevation measurements were generally 0.77 feet to 9.84 feet higher outside the barrier wall. The data demonstrate that the barrier wall is successfully performing the intended function of isolating and protecting the groundwater outside the barrier wall from the known source areas of the Site inside the barrier wall. MWH will continue to collect regular water level measurements across the Site as required in the PSVP.

As part of the optimization of the GWTP and BWES upgrades, MWH began active dewatering of the Off-Site Area through increased groundwater pumping rates on September 25, 2001 and active dewatering of the SBPA by the addition of the DPE wells on February 11, 2003. To keep track of the dewatering progress inside the barrier wall, water levels were collected from the various piezometers and air sparge (AS) wells on a regular basis, as shown in Table 4.2. Water levels regularly were measured at seven piezometers in the On-Site Area regularly throughout the quarter (P29, P31, P32, P36, and P49) and at seven piezometers and three air sparge wells in the Off-Site Area (P96, P110, P112, P113, P114, P116, P118, AS-7, AS-8, and AS-9). The water level data from these piezometers and AS

wells are depicted graphically on Figures 4.3 and 4.4, which also reference the target water levels for each area. The target water levels were established to enhance the operation of the in-situ soil vapor extraction (ISVE) system.

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2090603.030102

7.0 SYSTEM OPERATION

The GWTP operated as designed for approximately 90 percent of the first quarter of 2003 (based on days of operation during the quarter). The GWTP was down the remaining portion of the 1st quarter for maintenance and installation of new equipment. The system drew influent from the On-Site Area BWES, the Off-Site Area BWES, and the PGCS. The On-Site Area BWES also collected water from several of the new SBPA dual-phase extraction wells.

The Off-Site Area ISVE system continued to operate as designed for approximately 80 percent of the first quarter of 2003 (based on days of operation). Vapors were drawn from seventeen wells.

Table 2.2
Summary of Effluent Analytical Results - First Quarter 2003
Groundwater Treatment System
American Chemical Service NPL Site
Griffith, Indiana

Event Date	Month 68 1/23/2003	Month 69 2/20/2003	Month 70 3/13/2003	Effluent Limits	Lab Reporting
pH	7.44 /J	6.99 /J	7.23	6-9	none
TSS	ND	NS	NS	30	10
BOD	ND	NS	NS	30	2
Arsenic	ND	NS	NS	50	3.4
Beryllium	ND	NS	NS	NE	0.2
Cadmium	ND	NS	NS	4.1	0.3
Manganese	877	NS	NS	NE	10
Mercury	ND	NS	NS	0.02 (w/DL = 0.64)	0.64
Selenium	3.7 B/	NS	NS	8.2	4.3
Thallium	ND	NS	NS	NE	5.7
Zinc	4.7 B/UB	NS	NS	411	1.2
Benzene	0.08 JB/	0.02 J/	ND	5	0.5
Acetone	4 B/UBJ	2 JB/3 UBJ	2 JB/3UBJ	6,800	3
2-Butanone	ND	1 J/J	ND	210	3
Chloromethane	ND	0.2 J/	ND	NE	0.5
1,4-Dichlorobenzene	0.07 J/	ND	ND	NE	0.5
1,1-Dichloroethane	ND	ND	ND	NE	0.5
cis-1,2-Dichloroethene	0.04 JB/ 0.5 UB	ND	ND	70	0.5
Ethylbenzene	ND	0.03 J/	ND	34	0.5
Methylene chloride	ND	0.09 JB/0.5 UB	ND	5	0.6
Tetrachloroethene	ND	0.08 J/	0.2 JB/0.5UB	5	0.5
Trichloroethene	0.05 JB/ 0.5 UB	0.03 JB/0.5 UB	ND	5	0.5
Vinyl chloride	ND	ND	ND	2	0.5
4-Methyl-2-pentanone	ND	0.08 J/J	ND	15	3
bis (2-Chloroethyl) ether	ND	NS	NS	9.6	9.6
bis(2-Ethylhexyl) - phthalate	ND	NS	NS	6	6
4 - Methylphenol	ND	NS	NS	34	10
Isophorone	ND	NS	NS	50	10
Pentachlorophenol	ND	NS	NS	1	1
PCB/Aroclor-1016	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1221	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.92*
PCB/Aroclor-1232	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1242	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1248	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1254	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1260	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5

Notes:

pH data is expressed in S.U.

TSS and BOD5 data is expressed in mg/L

ND = Not detected

NS = This analyte was not sampled or analyzed for

NE = No effluent limit established.

NA = Sample not analyzed for this compound

* = Approved SW-846 method is incapable of achieving effluent limit.

Suffix Definitions:

/ = Data qualifier added by laboratory

/_ = Data qualifier added by data validator

B = Compound is also detected in the blank

E = Compound exceeds the upper level of calibration range of instrument

J = Result is detected below the reporting limit and is an estimated concentration

JB = Analyte is detected in the compliance sample below the reporting limit and is an estimated

U = Analyte is not detected at or above the indicated concentration

UB = Analyte is not detected at or above the indicated concentration due to blank contamination

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value

Table 2.3
Summary of Catalytic Oxidizer Off-Gas Analytical Results for VOCs (Method TO-14) - First Quarter 2003
American Chemical Service
Griffith, Indiana

Compounds	Units	Sampled 1/16/03						Sampled 2/13/03						Sampled 3/6/03					
		Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency		
		Influent IN1	Influent IN2	Effluent EF1	Low	High	Average	Influent IN1	Influent IN2	Effluent EF1	Low	High	Average	Influent IN1	Influent IN2	Effluent EF1	Low	High	Average
Method TO-14																			
Chloromethane	ppbv	ND /UJ	ND /UJ	62 /J	NC	NC	NC	1700 J/J	1400 J/J	45	NC	NC	NC	ND	ND	NA	NC	NC	NC
Vinyl Chloride	ppbv	1,300 J/J	2,200 J/J	63 /J	NC	NC	NC	1900 J/J	1800 J/J	55	NC	NC	NC	940 J/J	930 J/J	NA	NC	NC	NC
Bromomethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
Chloroethane	ppbv	ND /UJ	ND /UJ	5.4 J/J	NC	NC	NC	1100 J/J	1200 J/J	9.6 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC
1,1-Dichloroethene	ppbv	520 J/J	ND /UJ	170 /J	NC	NC	NC	2500 J/J	2200 J/J	250	NC	NC	NC	720 J/J	770 J/J	NA	NC	NC	NC
Methylene Chloride	ppbv	95,000 /J	100,000 /J	450 /J	NC	NC	NC	160,000	150,000	1,000	99.33%	99.38%	99.35%	53,000	60,000	NA	NC	NC	NC
1,1-Dichloroethane	ppbv	16,000 /J	17,000 /J	61 /J	NC	NC	NC	24,000	23,000	150	99.35%	99.38%	99.36%	14,000	16,000	NA	NC	NC	NC
cis-1,2-Dichloroethene	ppbv	61,000 /J	63,000 /J	260 /J	NC	NC	NC	51,000	52,000	460	99.10%	99.12%	99.11%	62,000	64,000	NA	NC	NC	NC
Chloroform	ppbv	5,400 /J	5,500 /J	28 /J	NC	NC	NC	5,900	5,800	55	99.05%	99.07%	99.06%	5,600	6,200	NA	NC	NC	NC
1,1,1-Trichloroethane	ppbv	100,000 /J	100,000 /J	420 /J	NC	NC	NC	130,000	130,000	910	99.30%	99.30%	99.30%	92,000	100,000	NA	NC	NC	NC
Carbon Tetrachloride	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
Benzene	ppbv	100,000 /J	100,000 /J	710 /J	NC	NC	NC	120,000	110,000	1,000	99.09%	99.17%	99.13%	71,000	79,000	NA	NC	NC	NC
1,2-Dichloroethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	1,900	2,100	NA	NC	NC	NC
Trichloroethene	ppbv	57,000 /J	58,000 /J	320 /J	NC	NC	NC	66,000	64,000	570	99.11%	99.14%	99.12%	49,000	56,000	NA	NC	NC	NC
1,2-Dichloropropane	ppbv	ND /UJ	1,100 J/J	4.4 J/J	NC	NC	NC	1200 J/J	1200 J/J	8.8 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC
cis-1,3-Dichloropropene	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
Toluene	ppbv	560,000 /J	590,000 /J	2,000 /J	NC	NC	NC	490,000	480,000	3,600	99.25%	99.27%	99.26%	410,000	460,000	NA	NC	NC	NC
trans-1,3-Dichloropropene	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
1,1,2-Trichloroethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
Tetrachloroethene	ppbv	78,000 /J	83,000 /J	570 /J	NC	NC	NC	79,000	78,000	730	99.06%	99.08%	99.07%	47,000	52,000	NA	NC	NC	NC
Chlorobenzene	ppbv	ND /UJ	ND /UJ	6.6 /J	NC	NC	NC	ND	ND	7.2 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC
Ethyl Benzene	ppbv	57,000 /J	56,000 /J	170 /J	NC	NC	NC	45,000	48,000	320	99.29%	99.33%	99.31%	49,000	52,000	NA	NC	NC	NC
m,p-Xylene	ppbv	270,000 /J	270,000 /J	800 /J	NC	NC	NC	180,000	190,000	1,200	99.33%	99.37%	99.35%	230,000	260,000	NA	NC	NC	NC
o-Xylene	ppbv	79,000 /J	80,000 /J	220 /J	NC	NC	NC	52,000	56,000	360	99.31%	99.36%	99.33%	71,000	77,000	NA	NC	NC	NC
Styrene	ppbv	ND /UJ	ND /UJ	50 /J	NC	NC	NC	ND	2600 J/J	40	NC	NC	NC	ND	ND	NA	NC	NC	NC
1,1,2,2-Tetrachloroethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
Acetone	ppbv	61,000 /J	62,000 /J	240 /J	NC	NC	NC	97,000	96,000	570	99.41%	99.41%	99.41%	50,000	56,000	NA	NC	NC	NC
Carbon Disulfide	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	860 J/J	980 J/J	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
trans-1,2-Dichloroethene	ppbv	ND /UJ	ND /UJ	34 /J	NC	NC	NC	ND	ND	34 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC
2-Butanone (Methyl Ethyl Ketone)	ppbv	50,000 /J	51,000 /J	150 /J	NC	NC	NC	86,000	91,000	500	99.42%	99.45%	99.43%	55,000	63,000	NA	NC	NC	NC
Bromodichloromethane	ppbv	ND /UJ	ND /UJ	3.6 J/J	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
4-Methyl-2-pentanone	ppbv	20,000 /J	18,000 /J	39 /J	NC	NC	NC	3900 J/J	4000 J/J	150	NC	NC	NC	22,000	26,000	NA	NC	NC	NC
2-Hexanone	ppbv	ND /UJ	ND /UJ	5.6 J/J	NC	NC	NC	ND	ND	16 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC
Dibromochloromethane	ppbv	ND /UJ	ND /UJ	4.1 J/J	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC
Bromoform	ppbv	ND /UJ	ND /UJ	5.2 J/J	NC	NC	NC	ND/R	ND/R	ND/R	NC	NC	NC	ND	ND	NA	NC	NC	NC
Total¹	ppbv	1,611,220	1,656,800	6,852	99.57%	99.59%	99.58%	1,599,060	1,589,180	12,041.0	99.24%	99.25%	99.24%	1,284,160	1,431,000	NA	NC	NC	NC
Total¹	lb/hr	26.36	27.09	0.11	99.57%	99.58%	99.57%	25.68	25.57	0.20	99.23%	99.24%	99.24%	21.01	23.39	NA	NC	NC	NC

Notes:

J - Laboratory data qualifier

U - Data validation qualifier

NC - Not calculated

ND - Non-detect

ppbv - parts per billion volume

Table 2.4
Summary of Catalytic Oxidizer Off-Gas Analytical Results for SVOCs (Method TO-13) - First Quarter 2003
American Chemical Service
Griffith, Indiana

Compounds	Units	Sampled 1/16/03							Sampled 2/13/03							Sampled 3/13/03						
		Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency					
Method TO-13		Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)			
Phenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
bis(2-Chloroethyl) Ether	µg	28/J	27	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2-Chlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
1,3-Dichlorobenzene	µg	1.9/J	1.8	ND	NC	NC	NC	1.7/J	ND	ND	NC	NC	NC	2.9	2.3	ND	100.00%	100.00%	100.00%			
1,4-Dichlorobenzene	µg	4.8/J	5.0	ND	NC	NC	NC	5.7/J	ND	0.69 J/J	NC	NC	NC	8.7	6.8	ND	100.00%	100.00%	100.00%			
1,2-Dichlorobenzene	µg	54/J	53	ND	NC	NC	NC	55/J	ND	6.8	NC	NC	NC	67	54	0.53 J/J	NC	NC	NC			
2-Methylphenol (o-Cresol)	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
N-Nitroso-di-n-propylamine	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
4-Methylphenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Hexachloroethane	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Nitrobenzene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Isophorone	µg	24/J	24	ND	NC	NC	NC	19/J	ND	2.0	NC	NC	NC	9.5	7.9	ND	100.00%	100.00%	100.00%			
2-Nitrophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2,4-Dimethylphenol	µg	1.9 J/J	1.8 J/J	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
bis(2-Chloroethoxy) Methane	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2,4-Dichlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
1,2,4-Trichlorobenzene	µg	1.3/J	1.5	ND	NC	NC	NC	1.2/J	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Naphthalene	µg	28/J	29	ND	NC	NC	NC	24/J	ND	2.7	NC	NC	NC	39	31	ND	100.00%	100.00%	100.00%			
4-Chloroaniline	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Hexachlorobutadiene	µg	0.70 J/J	0.75 J/J	ND	NC	NC	NC	0.67 J/J	ND	ND	NC	NC	NC	1.0	0.8 J/J	ND	NC	NC	NC			
4-Chloro-3-methylphenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2-Methylnaphthalene	µg	3.2/J	3.3	ND	NC	NC	NC	2.7/J	ND	ND	NC	NC	NC	4.6	3.7	ND	100.00%	100.00%	100.00%			
Hexachlorocyclopentadiene	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2,4,6-Trichlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2,4,5-Trichlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2-Chloronaphthalene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2-Nitroaniline	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Dimethylphthalate	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Acenaphthylene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2,6-Dinitrotoluene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
3-Nitroaniline	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Acenaphthene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2,4-Dinitrophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
4-Nitrophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
2,4-Dinitrotoluene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Dibenzofuran	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Diethylphthalate	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
Fluorene	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
4-Chlorophenyl-phenyl Ether	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
4-Nitroaniline	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
4,6-Dinitro-2-methylphenol	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
N-Nitrosodiphenylamine	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			
4-Bromophenyl-phenyl Ether	µg	ND/R	ND	NC	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC			

Table 2.4
Summary of Catalytic Oxidizer Off-Gas Analytical Results for SVOCs (Method TO-13) - First Quarter 2003
American Chemical Service
Griffith, Indiana

Compounds	Units	Sampled 1/16/03							Sampled 2/13/03							Sampled 3/13/03							
		Analytical Data			Destruction Efficiency				Analytical Data			Destruction Efficiency				Analytical Data			Destruction Efficiency				
		Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)
Method TO-13																							
Benzo(b)fluoranthene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC
Benzo(k)fluoranthene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-c,d)pyrene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC
Dibenz(a,h)anthracene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC
Benzo(g,h,i)perylene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC
Total¹	µg	147.8	147.2	0.4	99.76%	99.76%	99.76%	110.0	ND	12.2	NC	NC	NC	134.1	108.9	2.5	97.68%	98.11%	97.90%				

Notes:

/ - Laboratory data qualifier

/_ - Data validation qualifier

µg - Microgram

NC - Not calculated

ND - Non-detect

Individual destruction efficiencies were not calculated where influent and/or effluent values are estimated.

1. The total concentration was calculated using estimated detections (denoted with J or UJ qualifiers).

Therefore, this total should be considered an estimated total.

Qualifiers:

J - Result is estimated

UJ - Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

JB - Analyte is detected in the method blank resulting in potential bias high. Reported concentration is estimated.

R - Quality control indicates the data is not usable

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac ($\text{"H}_2\text{O}$)	VOCs (ppm)	Comments
SVE-01	1/6/2003	0	54	280	
	1/16/2003	27	50	150	
	1/23/2003	27	52	155	
	1/30/2003	39	52	84	
SVE-02	1/6/2003	27	48	91	
	1/16/2003	106	50	85	
	1/23/2003	17	48	72	
	1/30/2003	0	38	68	
SVE-03	2/17/2003	0	40	53	
	2/18/2003	NC	30	NC	
	2/19/2003	NC	38	NC	
	2/20/2003	NC	39	NC	
	2/21/2003	NC	43	NC	
	2/27/2003	60	58	NC	
	3/6/2003	NC	57	NC	
	3/13/2003	54	62	-	PID malfunctioned
	3/20/2003	NC	44	45	PID/FID rental
SVE-04	2/17/2003	64	12	75	
	2/18/2003	NC	18	197	
	2/19/2003	NC	16	NC	
	2/20/2003	40	27	113	
	2/21/2003	40	28	110	
	2/27/2003	40	30	98	
	3/6/2003	56	32	176	
	3/13/2003	0	36	-	PID malfunctioned
	3/20/2003	55	50	61	PID/FID rental
SVE-05	2/17/2003	39	40	245	
	2/18/2003	NC	40	430	
	2/19/2003	0	56	686	
	2/20/2003	38	58	121	
	2/21/2003	38	61	88	
	2/27/2003	0	60	8	
	3/6/2003	NC	62	66	
	3/13/2003	60	66	-	PID malfunctioned
	3/20/2003	NC	44	67	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac ($\text{"H}_2\text{O}$)	VOCs (ppm)	Comments
SVE-06	2/17/2003	40	30	410	
	2/18/2003	40	33	1552	
	2/19/2003	57	26	NC	
	2/20/2003	63	28	1100	
	2/21/2003	49	30	1067	
	2/27/2003	40	30	560	
	3/6/2003	40	32	180	
	3/13/2003	NC	35	-	PID malfunctioned
	3/20/2003	0	43	45	
SVE-07	1/6/2003	12	42	185	
	1/16/2003	92	42	212	
	1/23/2003	12	43	145	
	1/30/2003	100	38	68	
SVE-08	1/6/2003	28	32	187	
	1/16/2003	56	32	254	
	1/23/2003	53	30	138	
	1/30/2003	40	30	135	
SVE-09	1/6/2003	182	0	210	
	1/16/2003	150	10	305	
	1/23/2003	142	48	78	
	1/30/2003	144	38	127	
	3/20/2003	126	27	20	
SVE-11	2/17/2003	-	10	55	
	2/18/2003	-	22	260	
	2/19/2003	-	27	1940	
	2/20/2003	-	27	212	
	2/21/2003	-	30	177	
	2/27/2003	-	30	85	
	3/6/2003	-	30	212	
	3/13/2003	-	33	-	PID malfunctioned
	3/20/2003	-	26	44	
SVE-12	1/6/2003	56	33	245	
	1/16/2003	0	42	271	
	1/23/2003	62	36	168	
	1/30/2003	48	45	112	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac (" H ₂ O)	VOCs (ppm)	Comments
SVE-13	2/17/2003	0	35	315	
	2/18/2003	0	40	166	
	2/19/2003	0	49	535	
	2/20/2003	0	50	247	
	2/21/2003	0	52	272	
	2/27/2003	0	52	28	
	3/6/2003	61	56	14	
	3/13/2003	0	60	-	PID malfunctioned
	3/20/2003	0	40	71	PID/FID rental
SVE-14	1/6/2003	27	48	1000	
	1/16/2003	-	40	-	
SVE-15	1/6/2003	85	22	1230	
	1/16/2003	94	21	979	
	1/23/2003	75	20	860	
	1/30/2003	90	22	754	
SVE-16	2/17/2003	40	26	1155	
	2/18/2003	40	30	1605	
	2/19/2003	56	32	1186	
	2/20/2003	73	40	875	
	2/21/2003	40	34	1060	
	2/27/2003	40	34	83	
	3/6/2003	40	27	420	
	3/13/2003	0	28	-	PID malfunctioned
	3/20/2003	55	40	71	
	4/25/2003	78	40	556	
	4/28/2003	78	41	568	
	4/29/2003	78	40	448	
	4/30/2003	78	40	397	
	5/1/2003	76	43	485	
SVE-18	1/6/2003	27	50	650	
	1/16/2003	0	48	1280	
	1/23/2003	0	47	1260	
	1/30/2003	19	48	980	
SVE-19	1/6/2003	68	44	143	
	1/16/2003	68	42	113	
	1/23/2003	68	40	90	
	1/30/2003	68	41	48	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac ($\text{" H}_2\text{O}$)	VOCs (ppm)	Comments
SVE-20	2/17/2003	39	38	51	
	2/18/2003	39	42	17	
	2/19/2003	62	44	54	
	2/20/2003	48	45	41	
	2/21/2003	48	46	36	
	2/27/2003	39	50	20	
	3/6/2003	39	50	33	
	3/13/2003	28	45	-	PID malfunctioned
	3/20/2003	NC	48	15	
SVE-22	1/6/2003	69	28	1595	
	1/16/2003	49	27	1445	
	1/23/2003	63	30	1515	
	1/30/2003	63	27	1529	
SVE-24	1/6/2003	74	34	1470	
	1/16/2003	49	31	1270	
	1/23/2003	69	26	1360	
	1/30/2003	69	31	-	
	4/17/2003	124	38	902	
	4/25/2003	103	48	633	
	4/28/2003	103	48	549	
	4/29/2003	102	50	422	
	4/30/2003	102	50	387	
	5/1/2003	98	52	520	
SVE-25	2/17/2003	40	18	1080	
	2/18/2003	40	20	1385	
	2/19/2003	40	21	1640	
	2/20/2003	40	21	1150	
	2/21/2003	63	30	1180	
	2/27/2003	40	32	340	
	3/6/2003	40	32	610	
	3/13/2003	0	20	-	PID malfunctioned
	3/20/2003	48	44	265	
SVE-26	2/17/2003	39	40	78	
	2/18/2003	39	43	33	
	2/19/2003	NC	52	208	
	2/20/2003	0	54	182	
	2/21/2003	0	57	86	
	2/27/2003	NC	55	11	
	3/6/2003	0	58	115	
	3/13/2003	0	65	-	PID malfunctioned
	3/20/2003	0	42	33	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac (["] H ₂ O)	VOCs (ppm)	Comments
SVE-27	1/6/2003	27	46	1090	
	1/16/2003	-	43	1040	
	1/23/2003	NC	28	NC	
	1/30/2003	0	44	1055	
SVE-29	2/17/2003	0	32	1555	
	2/18/2003	0	37	940	
	2/19/2003	27	49	1550	
	2/20/2003	27	50	980	
	2/21/2003	0	54	840	
	2/27/2003	NC	50	63	
	3/6/2003	27	62	370	
	3/13/2003	0	65	-	PID malfunctioned
	3/20/2003	28	38	402	
SVE-32	2/17/2003	41	10	430	
	2/18/2003	41	10	580	
	2/19/2003	40	22	1120	
	2/20/2003	40	22	278	
	2/21/2003	40	20	440	
	2/27/2003	40	20	253	
	3/6/2003	NC	20	84	
	3/13/2003	0	28	385	
	3/20/2003	28	20	80	
SVE-33	1/6/2003	52	42	1454	
	1/16/2003	27	48	672	
	1/23/2003	18	40	706	
	1/30/2003	27	46	620	
	4/25/2003	0	58	151	
	4/28/2003	0	58	140	
	4/29/2003	0	56	106	
	4/30/2003	0	58	103	
	5/1/2003	0	60	170	
SVE-35	1/6/2003	69	24	895	
	1/16/2003	64	22	755	
	1/23/2003	57	24	665	
	1/30/2003	57	22	716	
	4/25/2003	123	45	242	
	4/28/2003	129	44	209	
	4/29/2003	129	44	153	
	4/30/2003	126	45	175	
	5/1/2003	126	48	252	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac ($\text{"H}_2\text{O}$)	VOCs (ppm)	Comments
SVE-37	1/6/2003	61	50	1200	
	1/16/2003	61	50	1190	
	1/23/2003	47	50	1155	
	1/30/2003	61	50	720	
SVE-38	2/17/2003	40	30	1245	
	2/18/2003	40	34	1498	
	2/19/2003	39	45	1480	
	2/20/2003	39	46	1040	
	2/21/2003	40	30	1124	
	2/27/2003	40	34	45	
	3/6/2003	40	32	645	
	3/13/2003	NC	35	-	PID malfunctioned
	3/20/2003	28	45	250	
	4/17/2003	78	43	760	
	4/25/2003	72	58	547	
	4/28/2003	72	56	391	
	4/29/2003	72	56	354	
	4/30/2003	72	56	326	
	5/1/2003	71	60	470	
SVE-39	2/17/2003	40	20	942	
	2/18/2003	40	22	1082	
	2/19/2003	40	22	743	
	2/20/2003	40	22	570	
	2/21/2003	40	27	740	
	2/27/2003	40	20	455	
	3/6/2003	40	20	185	
	3/13/2003	NC	28	550	
	3/20/2003	48	42	167	
	4/17/2003	125	33	643	
	4/25/2003	96	42	379	
	4/28/2003	107	43	322	
	4/29/2003	100	42	212	
	4/30/2003	99	44	225	
	5/1/2003	99	46	315	
SVE-41	1/6/2003	79	32	1415	
	1/16/2003	102	28	1265	
	1/23/2003	75	28	1148	
	1/30/2003	85	28	1213	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac ($\text{" H}_2\text{O}$)	VOCs (ppm)	Comments
SVE-42	2/17/2003	0	36	1815	
	2/18/2003	0	40	1480	
	2/19/2003	27	48	1910	
	2/20/2003	0	49	1410	
	2/21/2003	0	52	462	
	2/27/2003	0	52	504	
	3/6/2003	122	52	85	
	3/13/2003	NC	60	485	
	3/20/2003	0	40	250	

Notes:

"-" = data not collected

"NC" = parameter was not collectible due to water in the vapor stream

Table 2.6
Off-Site In-Situ Vapor Extraction (ISVE) System Header Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Date	KP1 Line Pressure (psia)	KP1 Flow (scfm)	KP1 Vacuum (" H ₂ O)	KP2 Line Pressure (psia)	KP2 Flow (scfm)	KP2 Vacuum (" H ₂ O)	OFCA1 Vacuum (" H ₂ O)	OFCA2 Vacuum (" H ₂ O)	OFCA3 Vacuum (" H ₂ O)	Dilution Flow (cfm)	Blower Influent Line Pressure (psia)	Blower Influent Flow (scfm)	Blower Influent Vacuum (" H ₂ O)	Blower Influent VOC (ppm)	Blower Influent Temperature (°F)	Blower Effluent Line Pressure (psia)	Blower Effluent Flow (scfm)	Blower Effluent Pressure (" H ₂ O)	Blower Effluent VOC (ppm)
1/6/2003	12.9	234	50	13.2	168	42	48	40	48	0	12.7	NC	56	-	48	15.5	973	23.0	1363
1/16/2003	13.1	168	48	13.4	340	40	44	38	48	334	12.9	942	54	-	44	15.7	981	23.0	1482
1/23/2003	13.2	169	48	13.4	0	45	44	38	46	0	13.0	989	54	-	45	15.8	984	24.0	1150
1/30/2003	13.5	169	38	13.3	168	43	43	38	46	0	12.8	907	55	-	48	15.7	978	24.5	1393
2/17/2003	13.3	170	40	13.4	0	38	38	30	38	0	13.1	1038	46	-	42	15.7	1032	26.0	960
2/18/2003	13.1	168	46	13.2	238	43	42	34	43	0	12.9	973	50	-	44	15.6	980	24.0	1784
2/19/2003	12.8	370	57	13.0	NC	52	52	42	52	0	12.6	930	62	-	45	15.6	973	21.0	1495
2/20/2003	12.9	333	56	13.0	167	53	54	42	52	0	12.7	936	61	-	42	15.6	977	21.0	1338
2/21/2003	12.6	402	60	12.7	NC	57	58	47	57	0	12.4	878	65	-	45	15.5	967	21.0	1406
2/27/2003	12.7	234	59	12.8	0	56	58	45	66	0	12.5	913	64	-	43	15.5	971	20.5	1280
3/6/2003	12.6	0	60	12.7	0	58	58	50	58	0	12.5	870	63	-	42	15.5	940	21.0	760
3/13/2003	12.5	NC	67	12.6	NC	64	64	55	64	0	NC	NC	-	-	-	NC	NC	-	-
3/20/2003	13.0	527	45	13.1	0	43	42	34	40	0	12.9	906	50	-	50	15.5	1001	22.0	902

Notes:

NC - Not Calculated. Because various parameters were not recorded on these dates, these values could not be calculated.

psia - pounds per square inch, atmosphere

scfm - standard cubic feet per minute

"H₂O - inches of water

VOC - volatile organic compound

ppm - parts per million

KP1 & KP1 are headers in the KP Area

OFCA1, OFCA2, & OFCA3 are headers in the OFCA



Table 2.1
Groundwater Treatment System Effluent Discharge Limits
American Chemical Service NPL Site
Griffith, Indiana

Groundwater Quality Parameter	Effluent Standard (Limit)
<i>General Water Quality Parameters</i>	
PH	6 - 9 S.U.
BOD-5	30 mg/L
TSS	30 mg/L
<i>Inorganics</i>	
Arsenic	50 µg/L
Beryllium	NE
Cadmium	4.1 µg/L
Manganese	NE
Mercury	0.02 µg/L (w/DL = 0.64)
Selenium	8.2 µg/L
Thallium	NE
Zinc	411 µg/L
<i>Volatile Organics</i>	
Acetone	6,800 µg/L
Benzene	5 µg/L
2-Butanone	210 µg/L
Chloromethane	NE
1,4 – Dichlorobenzene	NE
1,1 – Dichloroethane	NE
1,2 – Dichloroethene – cis	70 µg/L
Ethylbenzene	34 µg/L
Methylene chloride	5 µg/L
Tetrachloroethene	5 µg/L
Trichloroethene	5 µg/L
Vinyl chloride	2 µg/L
4 – Methyl - 2 – pentanone	15 µg/L
<i>Semi-Volatile Organics</i>	
bis(2 – Chloroethyl) ether	9.6 µg/L
bis(2 – Ethylhexyl) phthalate	6 µg/L
Isophorone	50 µg/L
4 – Methylphenol	34 µg/L
Pentachlorophenol	1 µg/L
<i>PCBs</i>	
PCBs	0.00056 µg/L (w/DL = 0.1 to 0.9)

Notes:

NE = No effluent limit established.

DL = Detection limit

Table 2.2
Summary of Effluent Analytical Results - First Quarter 2003
Groundwater Treatment System
American Chemical Service NPL Site
Griffith, Indiana

Event Date	Month 68 1/23/2003	Month 69 2/20/2003	Month 70 3/13/2003	Effluent Limits	Lab Reporting
pH	7.44 J/	6.99 J/	7.23	6-9	none
TSS	ND	NS	NS	30	10
BOD	ND	NS	NS	30	2
Arsenic	ND	NS	NS	50	3.4
Beryllium	ND	NS	NS	NE	0.2
Cadmium	ND	NS	NS	4.1	0.3
Manganese	877	NS	NS	NE	10
Mercury	ND	NS	NS	0.02 (w/DL = 0.64)	0.64
Selenium	3.7 B/	NS	NS	8.2	4.3
Thallium	ND	NS	NS	NE	5.7
Zinc	4.7 B/UB	NS	NS	411	1.2
Benzene	0.08 JB/	0.02 J/	ND	5	0.5
Acetone	4 B/UBJ	2 JB/3 UBJ	2 JB/3UBJ	6,800	3
2-Butanone	ND	1 J/J	ND	210	3
Chloromethane	ND	0.2 J/	ND	NE	0.5
1,4-Dichlorobenzene	0.07 J/	ND	ND	NE	0.5
1,1-Dichloroethane	ND	ND	ND	NE	0.5
cis-1,2-Dichloroethene	0.04 JB/0.5 UB	ND	ND	70	0.5
Ethylbenzene	ND	0.03 J/	ND	34	0.5
Methylene chloride	ND	0.09 JB/0.5 UB	ND	5	0.6
Tetrachloroethene	ND	0.08 J/	0.2 JB/0.5UB	5	0.5
Trichloroethene	0.05 JB/0.5 UB	0.03 JB/0.5 UB	ND	5	0.5
Vinyl chloride	ND	ND	ND	2	0.5
4-Methyl-2-pentanone	ND	0.08 J/J	ND	15	3
bis (2-Chloroethyl) ether	ND	NS	NS	9.6	9.6
bis(2-Ethylhexyl) - phthalate	ND	NS	NS	6	6
4 - Methylphenol	ND	NS	NS	34	10
Isophorone	ND	NS	NS	50	10
Pentachlorophenol	ND	NS	NS	1	1
PCB/Aroclor-1016	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1221	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.92*
PCB/Aroclor-1232	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1242	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1248	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1254	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1260	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5

Notes:

Data has not yet been validated in accordance with the Project QAPP (November 2001)

and the U.S. EPA National Functional Guidelines for Organic Data Review

pH data is expressed in S.U.

TSS and BOD5 data is expressed in mg/L

Metals, VOC, SVOC and PCB data is expressed in ug/L

ND = Not detected

NS = This analyte was not sampled or analyzed for

NE = No effluent limit established.

NA = Sample not analyzed for this compound

* = Approved SW-846 method is incapable of achieving effluent limit.

Suffix Definitions:

/ = Data qualifier added by laboratory

/_ = Data qualifier added by data validator

B = Compound is also detected in the blank

J = Result is detected below the reporting limit and is an estimated concentration

JB = Analyte is detected in the compliance sample below the reporting limit and is an estimated concentration and the compound is also detected in the method blank resulting in a potential high bias

U = Analyte is not detected at or above the indicated concentration

UB = Analyte is not detected at or above the indicated concentration due to blank contamination

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value

Table 2.3
Summary of Catalytic Oxidizer Off-Gas Analytical Results for VOCs (Method TO-14) - First Quarter 2003
American Chemical Service
Griffith, Indiana

Compounds	Units	Sampled 1/16/03								Sampled 2/13/03								Sampled 3/6/03								
		Analytical Data			Destruction Efficiency		Analytical Data			Destruction Efficiency		Analytical Data			Destruction Efficiency		Analytical Data			Destruction Efficiency		Analytical Data			Destruction Efficiency	
		Influent IN1	Influent IN2	Effluent EF1	Low	High	Average	Influent IN1	Influent IN2	Effluent EF1	Low	High	Average	Influent IN1	Influent IN2	Effluent EF1	Low	High	Average	Influent IN1	Influent IN2	Effluent EF1	Low	High	Average	
Method TO-14																										
Chloromethane	ppbv	ND /UJ	ND /UJ	62 /J	NC	NC	NC	1700 J/J	1400 J/J	45	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
Vinyl Chloride	ppbv	1,300 J/J	2,200 J/J	63 /J	NC	NC	NC	1900 J/J	1800 J/J	55	NC	NC	NC	940 J/J	930 J/J	NA	NC	NC	NC	NC	ND	NA	NC	NC	NC	
Bromomethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	NA	NC	NC	NC	NC	
Chloroethane	ppbv	ND /UJ	ND /UJ	5.4 J/J	NC	NC	NC	1100 J/J	1200 J/J	9.6 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
1,1-Dichloroethene	ppbv	520 J/J	ND /UJ	170 /J	NC	NC	NC	2500 J/J	2200 J/J	250	NC	NC	NC	720 J/J	770 J/J	NA	NC	NC	NC	NC	ND	NA	NC	NC	NC	
Methylene Chloride	ppbv	95,000 /J	100,000 /J	450 /J	NC	NC	NC	160,000	150,000	1,000	99.33%	99.38%	99.35%	53,000	60,000	NA	NC	NC	NC	14,000	16,000	NA	NC	NC	NC	
1,1-Dichloroethane	ppbv	16,000 /J	17,000 /J	61 /J	NC	NC	NC	24,000	23,000	150	99.35%	99.38%	99.36%	62,000	64,000	NA	NC	NC	NC	1,900	2,100	NA	NC	NC	NC	
cis-1,2-Dichloroethene	ppbv	61,000 /J	63,000 /J	260 /J	NC	NC	NC	51,000	52,000	460	99.10%	99.12%	99.11%	49,000	56,000	NA	NC	NC	NC	5,600	6,200	NA	NC	NC	NC	
Chloroform	ppbv	5,400 /J	5,500 /J	28 /J	NC	NC	NC	5,900	5,800	55	99.05%	99.07%	99.06%	92,000	100,000	NA	NC	NC	NC	92,000	100,000	NA	NC	NC	NC	
1,1,1-Trichloroethane	ppbv	100,000 /J	100,000 /J	420 /J	NC	NC	NC	130,000	130,000	910	99.30%	99.30%	99.30%	410,000	460,000	NA	NC	NC	NC	410,000	460,000	NA	NC	NC	NC	
Carbon Tetrachloride	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
Benzene	ppbv	100,000 /J	100,000 /J	710 /J	NC	NC	NC	120,000	110,000	1,000	99.09%	99.17%	99.13%	71,000	79,000	NA	NC	NC	NC	1,900	2,100	NA	NC	NC	NC	
1,2-Dichloroethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
Trichloroethene	ppbv	57,000 /J	58,000 /J	320 /J	NC	NC	NC	66,000	64,000	570	99.11%	99.14%	99.12%	49,000	56,000	NA	NC	NC	NC	49,000	56,000	NA	NC	NC	NC	
1,2-Dichloropropane	ppbv	ND /UJ	1,100 J/J	4.4 J/J	NC	NC	NC	1200 J/J	1200 J/J	8.8 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
cis-1,3-Dichloropropene	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
Toluene	ppbv	560,000 /J	590,000 /J	2,000 /J	NC	NC	NC	490,000	480,000	3,600	99.25%	99.27%	99.26%	230,000	260,000	NA	NC	NC	NC	49,000	52,000	NA	NC	NC	NC	
trans-1,3-Dichloropropene	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
1,1,2-Trichloroethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
Tetrachloroethene	ppbv	78,000 /J	83,000 /J	570 /J	NC	NC	NC	79,000	78,000	730	99.06%	99.08%	99.07%	47,000	52,000	NA	NC	NC	NC	47,000	52,000	NA	NC	NC	NC	
Chlorobenzene	ppbv	ND /UJ	ND /UJ	6.6 /J	NC	NC	NC	ND	ND	7.2 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
Ethyl Benzene	ppbv	57,000 /J	56,000 /J	170 /J	NC	NC	NC	45,000	48,000	320	99.29%	99.33%	99.31%	270,000	260,000	NA	NC	NC	NC	49,000	52,000	NA	NC	NC	NC	
m,p-Xylene	ppbv	270,000 /J	270,000 /J	800 /J	NC	NC	NC	180,000	190,000	1,200	99.33%	99.37%	99.35%	22,000	26,000	NA	NC	NC	NC	22,000	26,000	NA	NC	NC	NC	
o-Xylene	ppbv	79,000 /J	80,000 /J	220 /J	NC	NC	NC	52,000	56,000	360	99.31%	99.36%	99.33%	71,000	77,000	NA	NC	NC	NC	71,000	77,000	NA	NC	NC	NC	
Styrene	ppbv	ND /UJ	ND /UJ	50 /J	NC	NC	NC	ND	2600 J/J	40	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
1,1,2,2-Tetrachloroethane	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	ND	ND	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
Acetone	ppbv	61,000 /J	62,000 /J	240 /J	NC	NC	NC	97,000	96,000	570	99.41%	99.41%	99.41%	50,000	56,000	NA	NC	NC	NC	50,000	56,000	NA	NC	NC	NC	
Carbon Disulfide	ppbv	ND /UJ	ND /UJ	ND /UJ	NC	NC	NC	860 J/J	980 J/J	ND	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
trans-1,2-Dichloroethene	ppbv	ND /UJ	ND /UJ	34 /J	NC	NC	NC	ND	ND	34 J/J	NC	NC	NC	ND	ND	NA	NC	NC	NC	ND	ND	NA	NC	NC	NC	
2-Butanone (Methyl Ethyl Ketone)	ppbv	50,000 /J	51,000 /J	150 /J	NC	NC	NC	86,000	91,000	500	99.42%	99.45%	99.43%	55,000	63,000	NA	NC	NC	NC	55,						

Table 2.4
Summary of Catalytic Oxidizer Off-Gas Analytical Results for SVOCs (Method TO-13) - First Quarter 2003
American Chemical Service
Griffith, Indiana

Compounds Method TO-13	Units	Sampled 1/16/03						Sampled 2/13/03						Sampled 3/13/03					
		Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency		
		Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)
Phenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
bis(2-Chloroethyl) Ether	µg	28 J/J	27	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Chlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
1,3-Dichlorobenzene	µg	1.9 J/J	1.8	ND	NC	NC	NC	1.7 J/J	ND	ND	NC	NC	NC	2.9	2.3	ND	100.00%	100.00%	100.00%
1,4-Dichlorobenzene	µg	4.8 J/J	5.0	ND	100.00%	100.00%	100.00%	5.7 J/J	ND	0.69 J/J	NC	NC	NC	8.7	6.8	ND	100.00%	100.00%	100.00%
1,2-Dichlorobenzene	µg	54 J/J	53	ND	100.00%	100.00%	100.00%	55 J/J	ND	6.8	NC	NC	NC	67	54	0.53 J/J	NC	NC	NC
2-Methylphenol (o-Cresol)	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
N-Nitroso-di-n-propylamine	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Methylphenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Hexachloroethane	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Nitrobenzene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Isophorone	µg	24 J/J	24	ND	NC	NC	NC	19 J/J	ND	2.0	NC	NC	NC	9.5	7.9	ND	100.00%	100.00%	100.00%
2-Nitrophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dimethylphenol	µg	1.9 J/J	1.8 J/J	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
bis(2-Chloroethoxy) Methane	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dichlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
1,2,4-Trichlorobenzene	µg	1.3 J/J	1.5	ND	100.00%	100.00%	100.00%	1.2 J/J	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Naphthalene	µg	28 J/J	29	ND	100.00%	100.00%	100.00%	24 J/J	ND	2.7	NC	NC	NC	39	31	ND	100.00%	100.00%	100.00%
4-Chloroaniline	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Hexachlorobutadiene	µg	0.70 J/J	0.75 J/J	ND	NC	NC	NC	0.67 J/J	ND	ND	NC	NC	NC	1.0	0.8 J/J	ND	100.00%	100.00%	100.00%
4-Chloro-3-methylphenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Methylnaphthalene	µg	3.2 J/J	3.3	ND	100.00%	100.00%	100.00%	2.7 J/J	ND	ND	NC	NC	NC	4.6	3.7	ND	100.00%	100.00%	100.00%
Hexachlorocyclopentadiene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4,6-Trichlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4,5-Trichlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Chloronaphthalene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Nitroaniline	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Dimethylphthalate	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Acenaphthylene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,6-Dinitrotoluene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
3-Nitroaniline	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Acenaphthene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dinitrophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Nitrophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dinitrotoluene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Dibenzofuran	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Diethylphthalate	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Fluorene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Chlorophenyl-phenyl Ether	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Nitroaniline	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4,6-Dinitro-2-methylphenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
N-Nitrosodiphenylamine	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Bromophenyl-phenyl Ether	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Hexachlorobenzene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Pentachlorophenol	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Phenanthrene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Anthracene	µg	ND/R	ND	ND	NC	NC	NC	ND/R	ND	ND	NC								

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac (in H ₂ O)	VOCs (ppm)	Comments
SVE-09	1/6/2003	182	0	210	
	1/16/2003	150	10	305	
	1/23/2003	142	48	78	
	1/30/2003	144	38	127	
	3/20/2003	126	27	20	
SVE-11	2/17/2003	-	10	55	
	2/18/2003	-	22	260	
	2/19/2003	-	27	1940	
	2/20/2003	-	27	212	
	2/21/2003	-	30	177	
	2/27/2003	-	30	85	
	3/6/2003	-	30	212	
	3/13/2003	-	33	-	PID malfunctioned
	3/20/2003	-	26	44	
SVE-12	1/6/2003	56	33	245	
	1/16/2003	0	42	271	
	1/23/2003	62	36	168	
	1/30/2003	48	45	112	
SVE-13	2/17/2003	0	35	315	
	2/18/2003	0	40	166	
	2/19/2003	0	49	535	
	2/20/2003	0	50	247	
	2/21/2003	0	52	272	
	2/27/2003	0	52	28	
	3/6/2003	61	56	14	
	3/13/2003	0	60	-	PID malfunctioned
	3/20/2003	0	40	71	PID/FID rental
SVE-14	1/6/2003	27	48	1000	
	1/16/2003	-	40	-	
SVE-15	1/6/2003	85	22	1230	
	1/16/2003	94	21	979	
	1/23/2003	75	20	860	
	1/30/2003	90	22	754	
SVE-16	2/17/2003	40	26	1155	
	2/18/2003	40	30	1605	
	2/19/2003	56	32	1186	
	2/20/2003	73	40	875	
	2/21/2003	40	34	1060	
	2/27/2003	40	34	83	
	3/6/2003	40	27	420	
	3/13/2003	0	28	-	PID malfunctioned
	3/20/2003	55	40	71	
SVE-18	1/6/2003	27	50	650	
	1/16/2003	0	48	1280	
	1/23/2003	0	47	1260	
	1/30/2003	19	48	980	
SVE-19	1/6/2003	68	44	143	
	1/16/2003	68	42	113	
	1/23/2003	68	40	90	
	1/30/2003	68	41	48	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac (in H ₂ O)	VOCs (ppm)	Comments
SVE-20	2/17/2003	39	38	51	
	2/18/2003	39	42	17	
	2/19/2003	62	44	54	
	2/20/2003	48	45	41	
	2/21/2003	48	46	36	
	2/27/2003	39	50	20	
	3/6/2003	39	50	33	
	3/13/2003	28	45	-	PID malfunctioned
	3/20/2003	NC	48	15	
SVE-22	1/6/2003	69	28	1595	
	1/16/2003	49	27	1445	
	1/23/2003	63	30	1515	
	1/30/2003	63	27	1529	
	2/18/2003	40	19	1385	
	2/19/2003	49	22	1805	
	2/20/2003	40	17	1345	
	2/21/2003	41	15	1275	
	2/27/2003	NC	16	540	
	3/6/2003	NC	22	660	
	3/13/2003	NC	20	-	PID malfunctioned
	3/20/2003	48	34	430	
SVE-24	1/6/2003	74	34	1470	
	1/16/2003	49	31	1270	
	1/23/2003	69	26	1360	
	1/30/2003	69	31	-	
	4/17/2003	124	38	902	
	4/25/2003	103	48	633	
	4/28/2003	103	48	549	
	4/29/2003	102	50	422	
	4/30/2003	102	50	387	
	5/1/2003	98	52	520	
	2/17/2003	40	18	1080	
SVE-25	2/18/2003	40	20	1385	
	2/19/2003	40	21	1640	
	2/20/2003	40	21	1150	
	2/21/2003	63	30	1180	
	2/27/2003	40	32	340	
	3/6/2003	40	32	610	
	3/13/2003	0	20	-	PID malfunctioned
	3/20/2003	48	44	265	
	2/17/2003	39	40	78	
	2/18/2003	39	43	33	
SVE-26	2/19/2003	NC	52	208	
	2/20/2003	0	54	182	
	2/21/2003	0	57	86	
	2/27/2003	NC	55	11	
	3/6/2003	0	58	115	
	3/13/2003	0	65	-	PID malfunctioned
	3/20/2003	0	42	33	
	1/6/2003	27	46	1090	
	1/16/2003	-	43	1040	
SVE-27	1/23/2003	NC	28	NC	
	1/30/2003	0	44	1055	
	6/10/2002	28	30	610	
	6/13/2002	13	30	777	
	6/14/2002	28	34	840	Testing Completed
	6/17/2002	28	32	923	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac ($\text{"H}_2\text{O}$)	VOCs (ppm)	Comments
SVE-29	2/17/2003	0	32	1555	
	2/18/2003	0	37	940	
	2/19/2003	27	49	1550	
	2/20/2003	27	50	980	
	2/21/2003	0	54	840	
	2/27/2003	NC	50	63	
	3/6/2003	27	62	370	
	3/13/2003	0	65	-	PID malfunctioned
	3/20/2003	28	38	402	
SVE-32	2/17/2003	41	10	430	
	2/18/2003	41	10	580	
	2/19/2003	40	22	1120	
	2/20/2003	40	22	278	
	2/21/2003	40	20	440	
	2/27/2003	40	20	253	
	3/6/2003	NC	20	84	
	3/13/2003	0	28	385	
	3/20/2003	28	20	80	
SVE-33	1/6/2003	52	42	1454	
	1/16/2003	27	48	672	
	1/23/2003	18	40	706	
	1/30/2003	27	46	620	
	4/25/2003	0	58	151	
	4/28/2003	0	58	140	
	4/29/2003	0	56	106	
	4/30/2003	0	58	103	
	5/1/2003	0	60	170	
SVE-35	1/6/2003	69	24	895	
	1/16/2003	64	22	755	
	1/23/2003	57	24	665	
	1/30/2003	57	22	716	
	4/25/2003	123	45	242	
	4/28/2003	129	44	209	
	4/29/2003	129	44	153	
	4/30/2003	126	45	175	
	5/1/2003	126	48	252	
SVE-37	1/6/2003	61	50	1200	
	1/16/2003	61	50	1190	
	1/23/2003	47	50	1155	
	1/30/2003	61	50	720	
SVE-38	2/17/2003	40	30	1245	
	2/18/2003	40	34	1498	
	2/19/2003	39	45	1480	
	2/20/2003	39	46	1040	
	2/21/2003	40	30	1124	
	2/27/2003	40	34	45	
	3/6/2003	40	32	645	
	3/13/2003	NC	35	-	PID malfunctioned
	3/20/2003	28	45	250	
	4/17/2003	78	43	760	
	4/25/2003	72	58	547	
	4/28/2003	72	56	391	
	4/29/2003	72	56	354	
	4/30/2003	72	56	326	
	5/1/2003	71	60	470	
	2/18/2003	40	22	1082	
	2/19/2003	40	22	743	

Table 2.5
Off-Site In-Situ Vapor Extraction (ISVE) System Well Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Well ID	Date	Flow (cfm)	Vac ($\text{in H}_2\text{O}$)	VOCs (ppm)	Comments
SVE-38 (continued)	2/20/2003	40	22	570	
	2/21/2003	40	27	740	
	2/27/2003	40	20	455	
	3/6/2003	40	20	185	
	3/13/2003	NC	28	550	
	3/20/2003	48	42	167	
	4/17/2003	125	33	643	
	4/25/2003	96	42	379	
	4/28/2003	107	43	322	
	4/29/2003	100	42	212	
SVE-41	4/30/2003	99	44	225	
	5/1/2003	99	46	315	
	1/6/2003	79	32	1415	
	1/16/2003	102	28	1265	
SVE-42	1/23/2003	75	28	1148	
	1/30/2003	85	28	1213	
	2/17/2003	0	36	1815	
	2/18/2003	0	40	1480	
	2/19/2003	27	48	1910	
	2/20/2003	0	49	1410	
	2/21/2003	0	52	462	
	2/27/2003	0	52	504	
	3/6/2003	122	52	85	
SVE-41	3/13/2003	NC	60	485	
	3/20/2003	0	40	250	

Notes:

"." = data not collected

"NC" = parameter parameter was not collectible due to water in the vapor stream

Table 2.6
Off-Site In-Situ Vapor Extraction (ISVE) System Header Monitoring Data - First Quarter 2003
ACS NPL Site
Griffith, Indiana

Date	KP1 Line Press (psia)	KP1 Flow (scfm)	KP1 Vac (* H ₂ O)	KP2 Line Press (psia)	KP2 Flow (scfm)	KP2 Vac (* H ₂ O)	OFCA1 Vac (* H ₂ O)	OFCA2 Vac (* H ₂ O)	OFCA3 Vac (* H ₂ O)	Dilution Flow (cfm)	Blower Inf Line Press (psia)	Blower Inf Flow (scfm)	Blower Inf Vac (* H ₂ O)	Blower Inf VOC (ppm)	Blower Inf Temp. (°F)	Blower Inf Line Press (psia)	Blower Eff Flow (scfm)	Blower Eff Press (* H ₂ O)	Blower Eff VOC (ppm)
1/6/2003	12.9	234	50	13.2	168	42	48	40	48	0	12.7	NC	56	-	48	15.5	973	23.0	1363
1/16/2003	13.1	168	48	13.4	340	40	44	38	48	334	12.9	942	54	-	44	15.7	981	23.0	1482
1/23/2003	13.2	169	48	13.4	0	45	44	38	46	0	13.0	989	54	-	45	15.8	984	24.0	1150
1/30/2003	13.5	169	38	13.3	168	43	43	38	46	0	12.8	907	55	-	48	15.7	978	24.5	1393
2/17/2003	13.3	170	40	13.4	0	38	38	30	38	0	13.1	1038	46	-	42	15.7	1032	26.0	960
2/18/2003	13.1	168	46	13.2	238	43	42	34	43	0	12.9	973	50	-	44	15.6	980	24.0	1784
2/19/2003	12.8	370	57	13.0	NC	52	52	42	52	0	12.6	930	62	-	45	15.6	973	21.0	1495
2/20/2003	12.9	333	56	13.0	167	53	54	42	52	0	12.7	936	61	-	42	15.6	977	21.0	1338
2/21/2003	12.6	402	60	12.7	NC	57	58	47	57	0	12.4	878	65	-	45	15.5	967	21.0	1406
2/27/2003	12.7	234	59	12.8	0	56	58	45	66	0	12.5	913	64	-	43	15.5	971	20.5	1280
3/6/2003	12.6	0	60	12.7	0	58	58	50	58	0	12.5	870	63	-	42	15.5	940	21.0	760
3/13/2003	12.5	NC	67	12.6	NC	64	64	55	64	0	NC	NC	-	-	-	NC	NC	-	-
3/20/2003	13.0	527	45	13.1	0	43	42	34	40	0	12.9	906	50	-	50	15.5	1001	22.0	902

NC - Not Calculated. Because various parameters were not recorded on these dates, these values could not be calculated.

Table 4.1
Water Table Elevations Across the Barrier Wall and Near the PGCS - First Quarter 2003
American Chemical Service NPL Site
Griffith, Indiana

Monitoring Point	Reference Points			March 24, 2003		Notes	Difference Across Barrier Wall (if applicable)
Designation	East	North	TOC	Level	Elevation		
Upper Aquifer Monitoring Wells							
MW6	5298	5520	655.28	25.60	629.68		n/a
MW11	6377	7329	640.47	10.16	630.31		n/a
MW12	6019	6352	642.74	12.26	630.48		n/a
MW13	5050	7814	634.08	3.55	630.53		n/a
MW14	4882	6995	638.56	10.10	628.46		n/a
MW15	4721	5003	637.89	8.59	629.30		n/a
MW17	5656	5677	647.10	17.24	629.86		n/a
MW19	5231	4943	635.78	6.30	629.48		n/a
MW37	5395	7976	636.78	6.75	630.03		n/a
MW38	5903	8216	636.51	6.65	629.86		n/a
MW39	6253	7947	637.77	7.20	630.57		n/a
MW40	6349	6831	639.46	8.81	630.65		n/a
MW41	6242	4517	632.74	7.04	625.70		n/a
MW42	6264	3808	632.32	7.80	624.52		n/a
MW43	5880	3719	633.56	8.46	625.10		n/a
MW44	5390	4303	633.04	5.10	627.94		n/a
MW45	5830	4388	635.35	7.19	628.16		n/a
MW46	4526	7424	633.32	2.81	630.51		n/a
MW47	5958	5084	640.54	9.73	630.81		n/a
MW48	5669	7814	636.36	6.14	630.22		n/a
MW49	5551	7650	637.00	6.95	630.05		n/a
M4S	4953	6537	633.42	3.41	630.01		n/a
Staff Gauges & Piezometers							
P13	4878	5735	651.20	21.11	630.09		n/a
P17	4584	6006	654.64	24.62	630.02		n/a
P23	4689	7018	636.18	6.33	629.85		n/a
P25	5131	7510	635.01	5.96	629.05		n/a
P26	4764	7309	634.23	3.77	630.46		n/a
P27	4904	7020	639.70	11.07	628.63		n/a
P28	5883	7486	644.53	14.49	630.04		n/a
P31	5480	7159	641.03	DRY	DRY	Total depth = 9.30	n/a
P32	5746	7026	642.32	DRY	DRY	Total depth = 12.4	n/a
P36	5410	6851	645.89	DRY	DRY	Total depth = 13.70	n/a
P40	5931	7241	638.77	8.43	630.34		n/a
P41	5663	7377	637.23	6.59	630.64		n/a
P49	5145	6949	638.98	DRY	DRY	Total depth = 11.1	n/a
SG8R	5409	5252	634.70	DRY	DRY		n/a
SG8R2	5409	5242	632.67	2.67	629.34	New staff gauge 10 feet south of SG8R	n/a
SG5	5464	7713	633.36	DRY	DRY		n/a
SG13			631.53	4.92	630.45	TOC is the 6.0' mark on	n/a
SG14			635.44	3.60	633.0	TOC is the 6.0' mark on	n/a

Table 4.1
Water Table Elevations Across the Barrier Wall and Near the PGCS - First Quarter 2003
American Chemical Service NPL Site
Griffith, Indiana

Monitoring Point Designation	Reference Points		March 24, 2003		Notes	Difference Across Barrier Wall (if applicable)
	East	North	TOC	Level		
PGCS Piezometer Sets						
P81	5577	7581	636.19	6.52	629.67	n/a
P82	5577	7572	635.77	6.18	629.59	n/a
P83	5577	7561.6	635.95	6.41	629.54	n/a
P84	5322	7603	634.35	5.10	629.25	n/a
P85	5326	7594	634.08	5.08	629.00	n/a
P86	5329	7585	634.41	5.58	628.83	n/a
P87	5121	7466	633.88	4.95	628.93	n/a
P88	5130	7460	633.90	5.77	628.13	n/a
P89	5137	7454	634.02	5.87	628.15	n/a
P90	4881	7152	632.59	4.90	627.69	n/a
P91	4889	7145	632.97	5.21	627.76	n/a
P92	4896	7138.1	633.63	4.33	629.30	n/a

Monitoring Point Designation	Reference Points		March 24, 2003		Notes	Difference Across Barrier Wall (if applicable)
	East	North	TOC	Level		
BWES Water Level and Piezometer Pairs						
P93	5136	7067	638.79	CNM	CNM	Does not exist - Scheduled to be re-installed in 2003
P94	5146	7061	638.98	CNM	CNM	Does not exist - Scheduled to be re-installed in 2003
P95	5146	6532	638.58	7.65	630.93	
P96	5156	6537	638.39	17.30	621.09	-9.84
P105	5885	6678	638.86	8.20	630.66	
P106	5871	6685	638.10	10.59	627.51	-3.15
P107	5766	7339	637.42	7.45	629.97	
P108	5757	7324	638.13	8.93	629.20	-0.77
P109	5740	6387	644.30	13.72	630.58	
P110	5705	6382	647.68	22.00	625.68	-4.90
P111	5551	5950	650.03	19.96	630.07	
P112	5525	5960	653.36	28.09	625.27	-4.80
P113	5309	5693	657.53	31.80	625.73	
ORCPZ102	5331	5612	652.47	23.39	629.08	-3.35
P114	5035	5729	653.69	27.51	626.18	
P115	4970	5708	652.50	22.64	629.86	-3.68
P116	5031	6087	646.26	20.90	625.36	
P117	5014	6087	643.93	12.21	631.72	-6.36
P118	5402	6539	645.52	20.57	624.95	

Table 4.1
Water Table Elevations Across the Barrier Wall and Near the PGCS - First Quarter 2003
American Chemical Service NPL Site
Griffith, Indiana

Monitoring Point Designation	Reference Points East	Reference Points North	TOC	Level	Elevation	Notes	Difference Across Barrier Wall (if applicable)
Lower Aquifer Wells							
MW7	6113	6732	641.46	21.55	619.91		n/a
MW8	5934	7506	640.43	20.81	619.62		n/a
MW9R	4893	6990	639.05	19.20	619.85		n/a
MW10C	5229	7554	637.45	CNM	CNM	Could not measure due to pump in well	n/a
MW23	4717	7404	633.31	13.40	619.91		n/a
MW24	4596	8033	635.22	15.66	619.56		n/a
MW28	5657	5695.6	648.77	28.35	620.42		n/a
MW50	5269	5383	649.43	28.96	620.47		n/a
MW51	5198	7767	634.16	14.64	619.52		n/a
MW52	4996	7814	632.74	13.10	619.64	Well under pressure	n/a
MW54R	5589.8	7592.2	637.51	17.73	619.78		n/a
M4D	4949	6538	633.32	13.30	620.02		n/a

Notes:

All depth measurements and elevations are in units of feet.

Elevation is in feet above mean sea level.

TOC = top of casing

CNM = could not measure (reason given under "Notes" column)

n/a = not applicable

1 = A positive value indicates that the water level is higher inside the barrier wall.

A negative value indicates that the water level is lower inside the barrier wall.

Table 4.2
Water Levels Inside Barrier Wall - First Quarter 2003
American Chemical Service NPL Site
Griffith, Indiana

Date	On-Site Area					
	Target Level	P-29	P-31	P-32	P-36	P-49
3-Jan-03	629.0	630.4	630.9	629.8	628.7	627.9
10-Jan-03	629.0	630.4	630.9	629.8	628.7	627.9
17-Jan-03	629.0	630.4	630.9	629.8	628.7	627.9
24-Jan-03	629.0	630.4	630.9	629.8	628.7	627.9
31-Jan-03	629.0	630.4	630.9	629.8	628.7	627.9
7-Feb-03	629.0	630.4	630.9	629.8	628.5	627.9
14-Feb-03	629.0	630.4	630.9	629.8	628.2	627.9
21-Feb-03	629.0	630.4	630.9	629.8	628.2	627.9
28-Feb-03	629.0	630.4	630.9	629.8	628.2	627.9
7-Mar-03	629.0	630.4	630.9	629.8	628.2	627.9
14-Mar-03	629.0	630.4	630.9	629.8	628.2	627.9
21-Mar-03	629.0	630.4	630.9	629.8	628.2	627.9
28-Mar-03	629.0	630.4	630.9	629.8	628.2	627.9

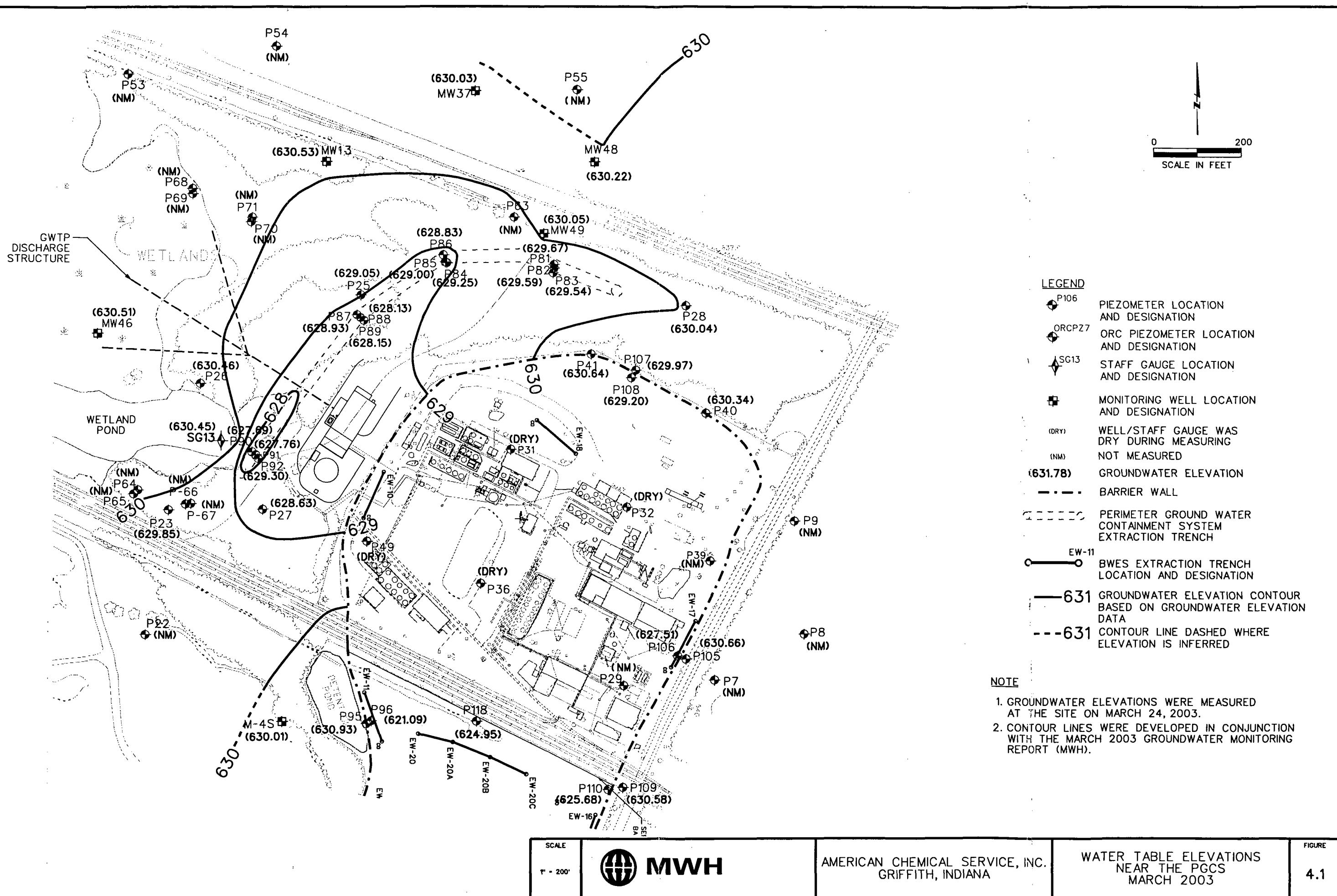
Date	Off-Site Area										
	Target Level	P-96	P-110	P-112	P-113	P-114	P-116	P-118	AS-7	AS-8	AS-9
3-Jan-03	626.0	620.6	625.9	625.4	625.8	626.2	625.8	624.9	626.6	626.9	626.4
10-Jan-03	626.0	620.6	626.5	625.4	625.9	626.3	625.8	624.9	626.6	626.8	626.2
17-Jan-03	626.0	620.6	626.2	625.4	625.9	626.3	625.8	624.9	626.6	626.9	626.1
24-Jan-03	626.0	620.6	625.9	625.5	625.9	626.4	625.9	624.9	626.4	626.2	626.0
31-Jan-03	626.0	620.6	626.2	625.8	626.5	626.9	626.8	624.9	626.5	626.4	626.1
7-Feb-03	626.0	620.6	626.0	625.6	626.2	626.6	626.3	624.9	626.3	626.2	626.0
14-Feb-03	626.0	620.6	625.8	625.4	625.8	626.3	625.8	624.9	626.1	625.9	625.9
21-Feb-03	626.0	620.6	625.8	625.4	625.9	626.4	625.7	624.9	626.0	626.0	626.1
28-Feb-03	626.0	620.6	625.7	625.4	625.8	626.2	625.7	624.9	626.1	626.7	626.1
7-Mar-03	626.0	620.6	625.6	625.2	625.8	626.1	625.5	624.9	626.3	626.7	626.0
14-Mar-03	626.0	620.6	625.6	625.1	625.7	626.0	625.3	624.9	626.5	626.7	625.8
21-Mar-03	626.0	620.6	625.7	625.3	625.9	626.2	625.5	624.9	626.5	626.5	626.3
28-Mar-03	626.0	620.6	625.9	625.5	626.0	626.5	625.7	624.9	626.5	626.3	626.2

Notes:

All water level elevations are in feet AMSL

- indicates not water level was recorded on this date





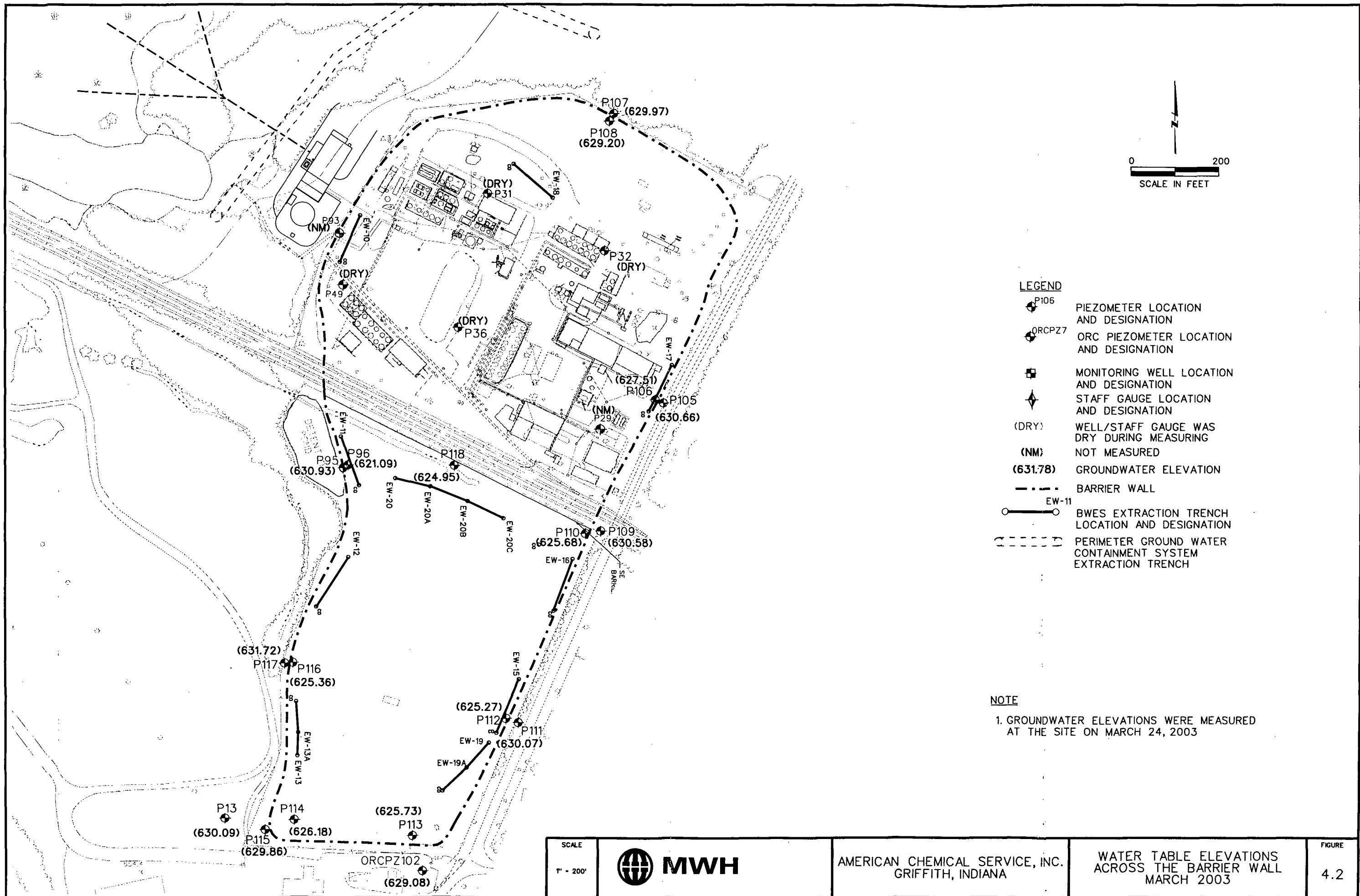
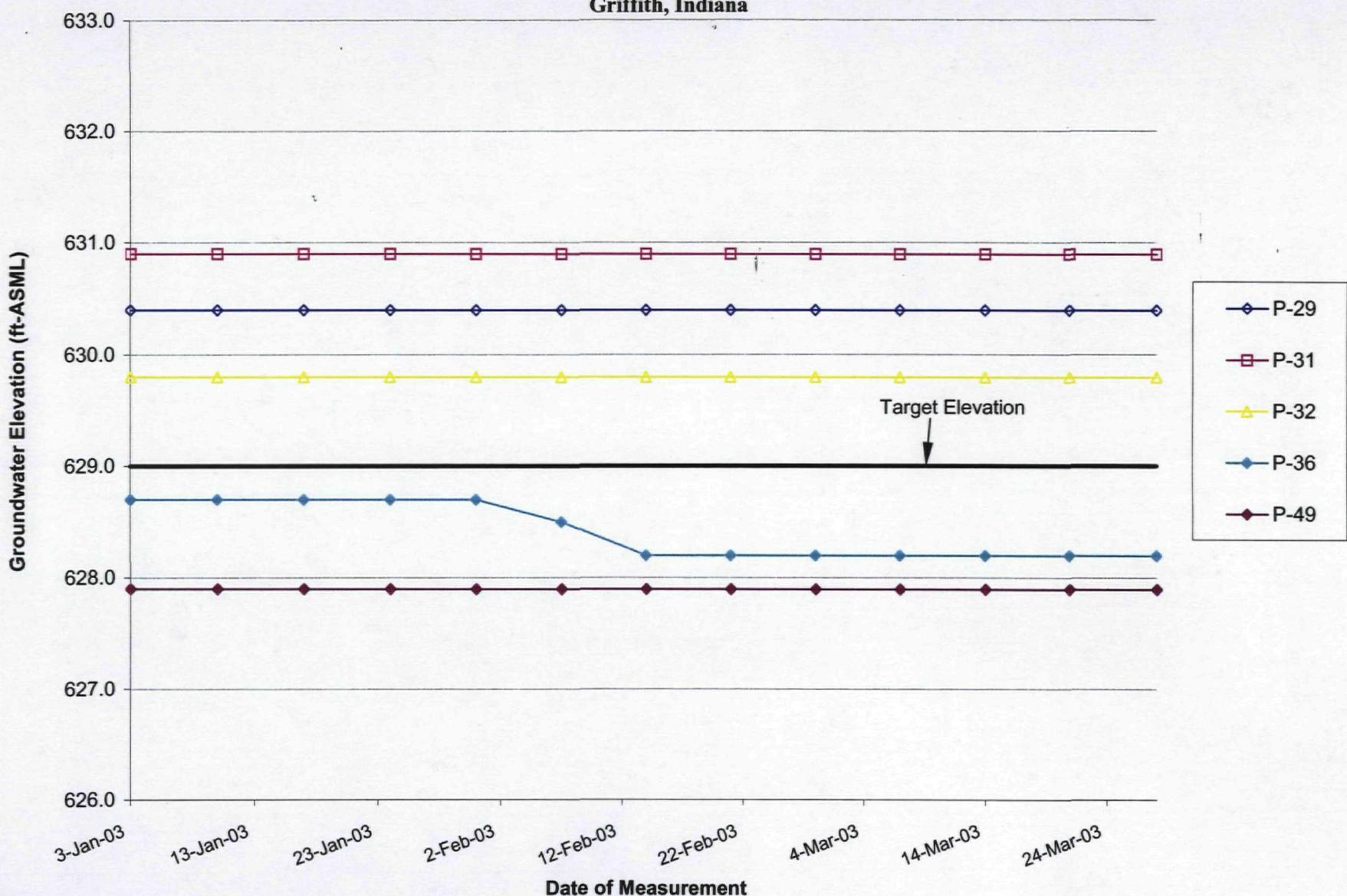


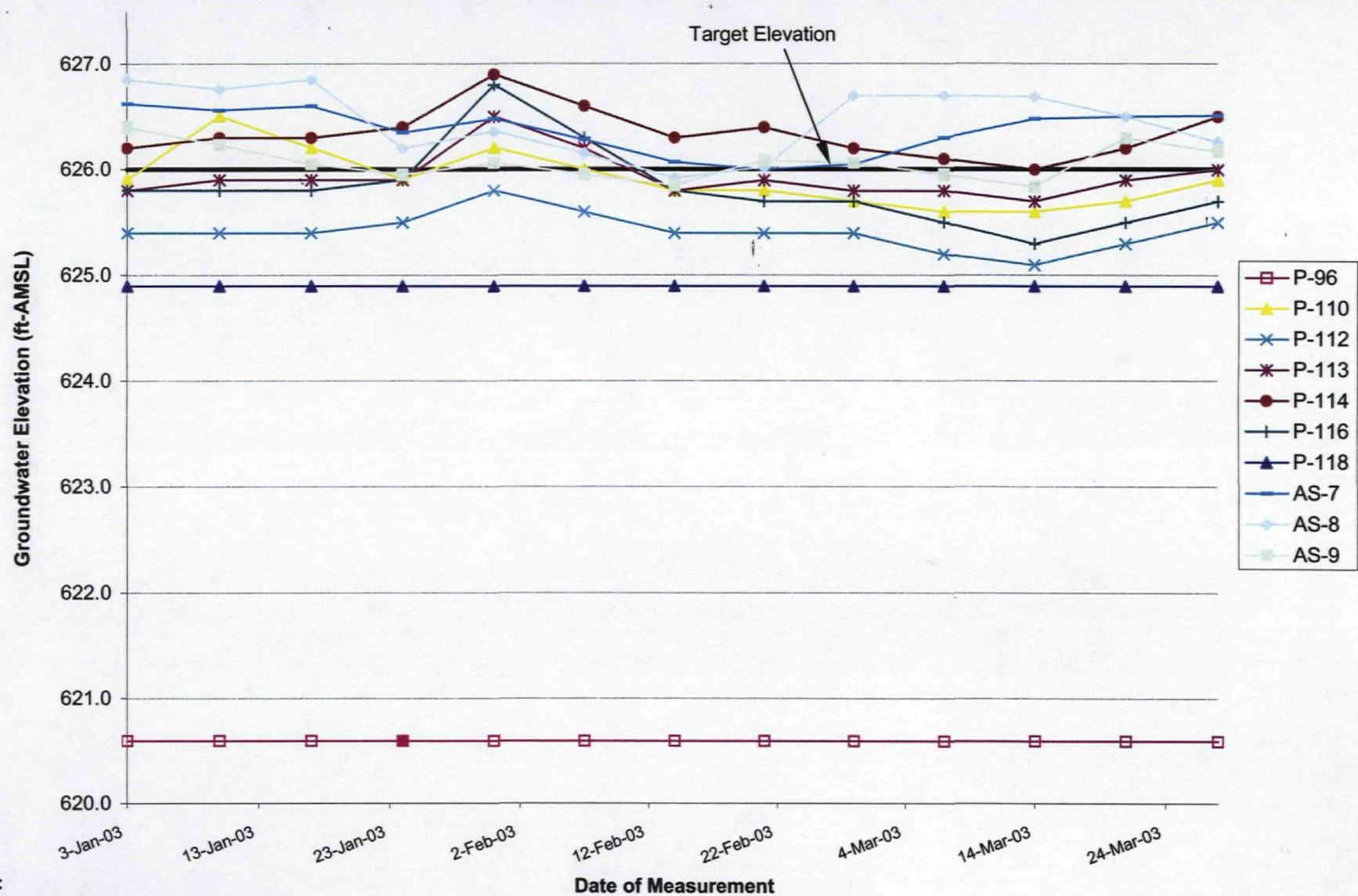
Figure 4.3
Water Level Trends Inside the Barrier Wall (Still Bottoms Pond Area)
ACS NPL Site
Griffith, Indiana



Note:

Hollow points represent dry piezometers (data used for graphing purposes only)

Figure 4.4
 Water Level Trends Inside Barrier Wall (Off-Site Area)
 ACS NPL Site
 Griffith, Indiana



Note:

Hollow points represent dry piezometers
 (data used for graphing purposes only)





APPENDIX A

EFFLUENT ANALYTICAL DATA

**January 23, 2003 Compliance Sample
Laboratory Results**

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: CompuChem Contract: _____

Lab Code: LIBRTY Case No.: _____ NRAS No.: _____

SNG No.: ST1024

Matrix (soil/water): WATER Lab Sample ID: ST1024-1

Date Received: 1/24/03

% Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
TSS	1.00	U			1/27/03
pH	7.44				1/27/03

J

Comments:

PH is reported in pH Units.

97/01/03

2

**3909 Beryl Road
Raleigh, NC 27607**

**Telephone: (919) 834-4984
Fax: (919) 834-6497**

**NC/WW Cert. #: 067
NC/DW Cert #: 37731**

Laboratory Report

1 of 1

--- Prepared for ---

**Mr. Rob Gates
Compuchem
501 MADISON AVENUE
CARY, NC 27513**

**Report Date: 2/3/2003
Date Received: 1/24/2003**

Work Order #: 0301-01540

**Project ID: 01
Project ID: ACS-89 / SU1024**

**Cust. Code: CD1628
Cust. P.O.#:**

No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
01	EFFLUENT 1/23	1/23/2003	14:00	WW	45°C

Test Performed	Method	Results	Analyzed	Qualifier
Biochemical Oxygen Demand	EPA 405.1	<2 mg/L	1/24/03	

Report Certified by:

Edwin J. Lewis
for Tritest, Inc.

Edwin J. Lewis

SW846 METALS

-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: _____

Lab Code: LIBERTY

Case No.: _____

SAS No.: _____

SDG No.: ST1024Matrix (soil/water): WATERLab Sample ID: ST1024-1Level (low/med): LOWDate Received: 1/24/03% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48.2	B		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	194			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	118000			P
7440-47-3	Chromium	0.86	B		P
7440-48-4	Cobalt	2.9	B		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	8.7	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	30400			P
7439-96-5	Manganese	877			P
7439-97-6	Mercury	0.64	U		CV
7440-02-0	Nickel	116			P
7440-09-7	Potassium	22700			P
7782-49-2	Selenium	3.7	B		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	547000			P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	0.50	B		P
7440-66-6	Zinc	4.7	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: *1/24/03*Color After: COLORLESS Clarity After: CLEAR Artifacts: Comments:

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: COMPUCHEM

Method: 8260B

EFFLUENT

Lab Code: LIBRTY Case No.:

SAS No.:

SDG No.: ST1024

Matrix: (soil/water) WATER

Lab Sample ID: ST1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: ST1024-1B71

Level: (low/med) LOW

Date Received: 01/24/03

% Moisture: not dec.

Date Analyzed: 01/28/03

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
74-87-3-----	Chloromethane		0.5	U
75-01-4-----	Vinyl Chloride		0.5	U
74-83-9-----	Bromomethane		0.5	U
75-00-3-----	Chloroethane		0.5	U
75-35-4-----	1,1-Dichloroethene		0.5	U
75-15-0-----	Carbon disulfide		0.5	U
67-64-1-----	Acetone		4	B UBT
75-09-2-----	Methylene Chloride		0.5	U
156-60-5-----	trans-1,2-Dichloroethene		0.5	U
75-34-3-----	1,1-Dichloroethane		0.5	U
156-59-2-----	cis-1,2-Dichloroethene	0.04	JB	0.5 UBT
78-93-3-----	2-butanone		3	U
67-66-3-----	Chloroform		0.5	U
71-55-6-----	1,1,1-Trichloroethane		0.5	U
56-23-5-----	Carbon Tetrachloride		0.5	U
71-43-2-----	Benzene	0.08	JB	
107-06-2-----	1,2-Dichloroethane		0.5	U
79-01-6-----	Trichloroethene		0.05	JB 0.5 UBT
78-87-5-----	1,2-Dichloropropane		0.5	U
75-27-4-----	Bromodichloromethane		0.5	U
10061-01-5-----	cis-1,3-Dichloropropene		0.5	U
108-10-1-----	4-Methyl-2-pentanone		3	U
108-88-3-----	Toluene		0.2	JB 0.5 UBT
10061-02-6-----	trans-1,3-Dichloropropene		0.5	U
79-00-5-----	1,1,2-Trichloroethane		0.5	U
127-18-4-----	Tetrachloroethene		0.5	U
591-78-6-----	2-hexanone		3	U
124-48-1-----	Dibromochloromethane		0.5	U
108-90-7-----	Chlorobenzene	0.04	JB	0.5 UBT
100-41-4-----	Ethylbenzene		0.5	U
108-38-3-----	m,p-Xylene		1	U
95-47-6-----	o-Xylene		0.5	U
100-42-5-----	Styrene		0.5	U

FORM I VOA

12

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Method: 8260B

Lab Code: LIBRTY Case No.:

SAS No.: SDG No.: ST1024

Matrix: (soil/water) WATER

Lab Sample ID: ST1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: ST1024-1B71

Level: (low/med) LOW

Date Received: 01/24/03

% Moisture: not dec. _____
GC Column: SPB-624 ID: 0.32 (mm)

Date Analyzed: 01/28/03

Soil Extract Volume: _____ (uL)

Dilution Factor: 1.0

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

75-25-2-----	Bromoform	0.5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U
541-73-1-----	1,3-Dichlorobenzene	0.5	U
106-46-7-----	1,4-Dichlorobenzene	0.07	J
95-50-1-----	1,2-Dichlorobenzene	0.5	U
120-82-1-----	1,2,4-Trichlorobenzene	0.5	U
540-59-0-----	1,2-Dichloroethene (total)	0.04	JB 0.5UB
1330-20-7-----	Xylene (total)	0.5	U

FORM I VOA

6/21/03

13

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: COMPUCHEM

Method: 8270C

EFFLUENT

Lab Code: LIBRTY Case No.:

SAS No.:

SDG No.: ST1024

Matrix: (soil/water) WATER

Lab Sample ID: ST1024-1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: ST1024-1B64

Level: (low/med) LOW

Date Received: 01/24/03

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 01/27/03

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 01/29/03

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4-----	Bis(2-chloroethyl)ether	9.6	U
106-44-5-----	4-Methylphenol	10	U
78-59-1-----	Isophorone	10	U
117-81-7-----	bis(2-ethylhexyl)Phthalate	6	U

1/2/03

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: ST1024

Matrix: (soil/water) WATER Lab Sample ID: ST1024-1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: ST1024-1A60

Level: (low/med) LOW Date Received: 01/24/03

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 01/27/03

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/30/03

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
87-86-5-----Pentachlorophenol		1	U

FORM I SV

8270C

6/27/03

12

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: 8082

Lab Code: LIBRTY Case No.:

SAS No.: SDG No.: ST1024

Matrix: (soil/water) WATER

Lab Sample ID: ST1024-1

Sample wt/vol: 500.0 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 01/24/03

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 01/27/03

Concentrated Extract Volume: 2500 (uL)

Date Analyzed: 01/28/03

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2-----	Aroclor-1016	0.50	U
11104-28-2-----	Aroclor-1221	1.0	U
11141-16-5-----	Aroclor-1232	0.50	U
53469-21-9-----	Aroclor-1242	0.50	U
12672-29-6-----	Aroclor-1248	0.50	U
11097-69-1-----	Aroclor-1254	0.50	U
11096-82-5-----	Aroclor-1260	0.50	U

FORM I PEST

1/21/03

10

**February 20, 2003 Compliance Sample
Laboratory Results**

9951A

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: CompuChem

Contract:

Lab Code: LIBERTY

Case No.:

NRAS No.:

DG No.: SV1024

Matrix (soil/water): WATER

Lab Sample ID: SV1024-1

Date Received: 2/21/03

% Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): pH units

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
pH	6.99				2/24/03 J

Comments:

9/19/03

2

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: COMPUCHEM

Method: 8260B

EFFLUENT

Lab Code: LIBRTY Case No.:

SAS No.:

SDG No.: SV1024

Matrix: (soil/water) WATER

Lab Sample ID: SV1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: SV1024-1B62

Level: (low/med) LOW

Date Received: 02/21/03

% Moisture: not dec. _____
GC Column: RTX-VMS ID: 0.18 (mm)

Date Analyzed: 02/28/03

Soil Extract Volume: _____ (uL)

Dilution Factor: 1.0

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
74-87-3-----	Chloromethane		0.2	J
75-01-4-----	Vinyl Chloride		0.5	U
74-83-9-----	Bromomethane		0.5	U
75-00-3-----	Chloroethane		0.5	U
75-35-4-----	1,1-Dichloroethene		0.5	U
75-15-0-----	Carbon disulfide		0.5	U
67-64-1-----	Acetone		2	JB 3 uB J
75-09-2-----	Methylene Chloride	0.09	JB 0.5 uB	
156-60-5-----	trans-1,2-Dichloroethene		0.5	U
75-34-3-----	1,1-Dichloroethane		0.5	U
156-59-2-----	cis-1,2-Dichloroethene		0.5	U
78-93-3-----	2-butanone		1	J
67-66-3-----	Chloroform		0.5	U
71-55-6-----	1,1,1-Trichloroethane		0.5	U
56-23-5-----	Carbon Tetrachloride		0.5	U
71-43-2-----	Benzene		0.02	J
107-06-2-----	1,2-Dichloroethane		0.5	U UJ
79-01-6-----	Trichloroethene		0.03	JB 0.5 uB
78-87-5-----	1,2-Dichloropropane		0.5	U
75-27-4-----	Bromodichloromethane		0.5	U
10061-01-5-----	cis-1,3-Dichloropropene		0.5	U
108-10-1-----	4-Methyl-2-pentanone		0.08	J J
108-88-3-----	Toluene		0.4	J
10061-02-6-----	trans-1,3-Dichloropropene		0.5	U
79-00-5-----	1,1,2-Trichloroethane		0.5	U UJ
127-18-4-----	Tetrachloroethene		0.08	J
591-78-6-----	2-hexanone		3	U UJ
124-48-1-----	Dibromochloromethane		0.5	U
108-90-7-----	Chlorobenzene		0.5	U
100-41-4-----	Ethylbenzene		0.03	J
108-38-3-----	m,p-Xylene		0.09	J
95-47-6-----	o-Xylene		0.5	U
100-42-5-----	Styrene		0.5	U

FORM I VOA

P3/9/07

12

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: COMPUCHEM

Method: 8260B

EFFLUENT

Lab Code: LIBRTY Case No.:

SAS No.: SDG No.: SV1024

Matrix: (soil/water) WATER

Lab Sample ID: SV1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: SV1024-1B62

Level: (low/med) LOW

Date Received: 02/21/03

% Moisture: not dec. _____

Date Analyzed: 02/28/03

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2-----	Bromoform	0.5	U <i>uJ</i>
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U <i>uJ</i>
541-73-1-----	1,3-Dichlorobenzene	0.5	U
106-46-7-----	1,4-Dichlorobenzene	0.5	U
95-50-1-----	1,2-Dichlorobenzene	0.5	U
120-82-1-----	1,2,4-Trichlorobenzene	0.5	U
540-59-0-----	1,2-Dichloroethene (total)	0.5	U
1330-20-7-----	Xylene (total)	0.09	J

FORM I VOA

13/19/03

13

**March 13, 2003 Compliance Sample
Laboratory Results**

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: CompuChem

Contract: _____

Lab Code: LIBRTY

Case No.: _____

NRAS No.: _____

SDG No.: SW1024Matrix (soil/water): WATERLab Sample ID: SW1024-1Date Received: 3/14/03% Solids: 0.00Concentration Units (mg/L or mg/kg dry weight): pH units

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
pH	7.23				3/14/03

Comments:

Tadon

10085A

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: COMPUCHEM

Method: 8260B

EFFLUENT

Lab Code: LIBRTY Case No.:

SAS No.:

SDG No.: SW1024

Matrix: (soil/water) WATER

Lab Sample ID: SW1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: SW1024-1B62

Level: (low/med) LOW

Date Received: 03/14/03

% Moisture: not dec.

Date Analyzed: 03/24/03

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	0.5	U	
75-01-4	Vinyl Chloride	0.5	U	
74-83-9	Bromomethane	0.5	U	
75-00-3	Chloroethane	0.5	U	
75-35-4	1,1-Dichloroethene	0.5	U	
75-15-0	Carbon disulfide	0.5	U	
67-64-1	Acetone	2	JB	3UBJ
75-09-2	Methylene Chloride	0.5	U	
156-60-5	trans-1,2-Dichloroethene	0.5	U	
75-34-3	1,1-Dichloroethane	0.5	U	
156-59-2	cis-1,2-Dichloroethene	0.5	U	
78-93-3	2-butanone	3	U	
67-66-3	Chloroform	0.5	U	
71-55-6	1,1,1-Trichloroethane	0.5	U	WJ
56-23-5	Carbon Tetrachloride	0.5	U	WJ
71-43-2	Benzene	0.5	U	
107-06-2	1,2-Dichloroethane	0.5	U	
79-01-6	Trichloroethene	0.5	U	
78-87-5	1,2-Dichloropropane	0.5	U	
75-27-4	Bromodichloromethane	0.5	U	
10061-01-5	cis-1,3-Dichloropropene	0.5	U	
108-10-1	4-Methyl-2-pentanone	3	U	
108-88-3	Toluene	0.2	J	
10061-02-6	trans-1,3-Dichloropropene	0.5	U	
79-00-5	1,1,2-Trichloroethane	0.5	U	
127-18-4	Tetrachloroethene	0.2	JB	0.5 KUB
591-78-6	2-hexanone	3	U	
124-48-1	Dibromochloromethane	0.5	U	WJ
108-90-7	Chlorobenzene	0.5	U	
100-41-4	Ethylbenzene	0.5	U	
108-38-3	m,p-Xylene	0.09	J	
95-47-6	o-Xylene	0.5	U	
100-42-5	Styrene	0.5	U	

FORM I VOA

14807

12

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: COMPUCHEM	Method: 8260B	EFFLUENT
Lab Code: LIBRTY	Case No.:	SAS No.: SDG No.: SW1024
Matrix: (soil/water) WATER	Lab Sample ID: SW1024-1	
Sample wt/vol: 25 (g/ml) ML	Lab File ID: SW1024-1B62	
Level: (low/med) LOW	Date Received: 03/14/03	
% Moisture: not dec.	Date Analyzed: 03/24/03	
GC Column: RTX-VMS ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extract Volume: _____ (uL)	Soil Aliquot Volume: _____ (uL)	
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q		
75-25-2-----Bromoform	0.5	U
79-34-5-----1,1,2,2-Tetrachloroethane	0.5	U
541-73-1-----1,3-Dichlorobenzene	0.5	U
106-46-7-----1,4-Dichlorobenzene	0.5	U
95-50-1-----1,2-Dichlorobenzene	0.5	U <i>UJ</i>
120-82-1-----1,2,4-Trichlorobenzene	0.5	U <i>UJ</i>
540-59-0-----1,2-Dichloroethene (total)	0.5	U
1330-20-7-----Xylene (total)	0.09	J

FORM I VOA

1418107

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APPENDIX B

THERMAL OXIDIZER OFF-GAS ANALYTICAL DATA

January 16, 2003 Off-Gas Sample Laboratory Results

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 EF1-JANA

ID#: 0301345AR1-01A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	d012708	Date of Collection:	1/16/03
Dil. Factor:	11.7	Date of Analysis:	1/27/03

Compound	Rot. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	5.8	12	62	130
Vinyl Chloride	5.8	15	63	160
Bromomethane	5.8	23	Not Detected	Not Detected
Chloroethane	5.8	16	5.4 J	15 J
1,1-Dichloroethene	5.8	24	170	670
Methylene Chloride	5.8	21	450	1600
1,1-Dichloroethane	5.8	24	61	250
cis-1,2-Dichloroethene	5.8	24	260	1100
Chloroform	5.8	29	28	140
1,1,1-Trichloroethane	5.8	32	420	2300
Carbon Tetrachloride	5.8	37	Not Detected	Not Detected
Benzene	5.8	19	710	2300
1,2-Dichloroethane	5.8	24	Not Detected	Not Detected
Trichloroethene	5.8	32	320	1700
1,2-Dichloropropane	5.8	27	4.4 J	21 J
cis-1,3-Dichloropropene	5.8	27	Not Detected	Not Detected
Toluene	5.8	22	2000	7800
trans-1,3-Dichloropropene	5.8	27	Not Detected	Not Detected
1,1,2-Trichloroethane	5.8	32	Not Detected	Not Detected
Tetrachloroethene	5.8	40	570	3900
Chlorobenzene	5.8	27	6.6	31
Ethyl Benzene	5.8	26	170	770
m,p-Xylene	5.8	26	800	3500
o-Xylene	5.8	26	220	990
Styrene	5.8	25	50	210
1,1,2,2-Tetrachloroethane	5.8	41	Not Detected	Not Detected
Acetone	23	56	240	590
Carbon Disulfide	23	74	Not Detected	Not Detected
trans-1,2-Dichloroethene	23	94	34	140
2-Butanone (Methyl Ethyl Ketone)	23	70	150	460
Bromodichloromethane	23	160	3.6 J	24 J
4-Methyl-2-pentanone	23	97	39	160
2-Hexanone	23	97	5.6 J	23 J
Dibromochloromethane	23	200	4.1 J	36 J
Bromoform	23	240	5.2 J	55 J

J = Estimated value.

Container Type: 6 Liter Summa Canister

LH
2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 EF1-JANA

ID#: 0301345AR1-01A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	d012708	Date of Collection:	1/16/03
Dil. Factor:	117	Date of Analysis:	1/27/03

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	110	70-130

LH
2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN1-JANA

ID#: 0301345AR1-02A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	d012809	Date of Collection:	1/16/03
Dil. Factor:	2820	Date of Analysis:	1/28/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	1400	3000	Not Detected	NJ Not Detected
Vinyl Chloride	1400	3700	1300 J	3300 J
Bromomethane	1400	5600	Not Detected	JUJ Not Detected
Chloroethane	1400	3800	Not Detected	JUJ Not Detected
1,1-Dichloroethene	1400	5700	520 J	JJ 2100 J
Methylene Chloride	1400	5000	95000	JJ 340000
1,1-Dichloroethane	1400	5800	16000	JJ 67000
cis-1,2-Dichloroethene	1400	5700	61000	JJ 250000
Chloroform	1400	7000	5400	JJ 27000
1,1,1-Trichloroethane	1400	7800	100000	JJ 560000
Carbon Tetrachloride	1400	9000	Not Detected	JUJ Not Detected
Benzene	1400	4600	100000	JJ 330000
1,2-Dichloroethane	1400	5800	Not Detected	JUJ Not Detected
Trichloroethene	1400	7700	57000	JJ 310000
1,2-Dichloropropane	1400	6600	Not Detected	JUJ Not Detected
cis-1,3-Dichloropropene	1400	6500	Not Detected	JUJ Not Detected
Toluene	1400	5400	560000	JJ 2200000
trans-1,3-Dichloropropene	1400	6500	Not Detected	JUJ Not Detected
1,1,2-Trichloroethane	1400	7800	Not Detected	JUJ Not Detected
Tetrachloroethene	1400	9700	78000	JJ 540000
Chlorobenzene	1400	6600	Not Detected	JJ Not Detected
Ethyl Benzene	1400	6200	57000	JJ 250000
m,p-Xylene	1400	6200	270000	JJ 1200000
o-Xylene	1400	6200	79000	JJ 350000
Styrene	1400	6100	Not Detected	JUJ Not Detected
1,1,2,2-Tetrachloroethane	1400	9800	Not Detected	JUJ Not Detected
Acetone	5600	14000	61000	JJ 150000
Carbon Disulfide	5600	18000	Not Detected	JUJ Not Detected
trans-1,2-Dichloroethene	5600	23000	Not Detected	JUJ Not Detected
2-Butanone (Methyl Ethyl Ketone)	5600	17000	50000	JJ 150000
Bromodichloromethane	5600	38000	Not Detected	JUJ Not Detected
4-Methyl-2-pentanone	5600	23000	20000	JJ 85000
2-Hexanone	5600	23000	Not Detected	JUJ Not Detected
Dibromochloromethane	5600	49000	Not Detected	JUJ Not Detected
Bromoform	5600	59000	Not Detected	JUJ Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

LH
2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN1-JANA

ID#: 0301345AR1-02A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	d012809	Date of Collection:	1/16/03
Dil. Factor:	2820	Date of Analysis:	1/28/03

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	110	70-130

LH
2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN2-JANA

ID#: 0301345AR1-03A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	d012810	Date of Collection:	1/16/03	
Dil. Factor:	5640	Date of Analysis:	1/28/03	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	2800	5900	Not Detected	/VJ Not Detected
Vinyl Chloride	2800	7300	2200 J	/J 5800 J
Bromomethane	2800	11000	Not Detected	/VJ Not Detected
Chloroethane	2800	7600	Not Detected	/VJ Not Detected
1,1-Dichloroethene	2800	11000	Not Detected	/VJ Not Detected
Methylene Chloride	2800	10000	100000	/J 360000
1,1-Dichloroethane	2800	12000	17000	/J 71000
cis-1,2-Dichloroethene	2800	11000	63000	/J 260000
Chloroform	2800	14000	5500	/J 27000
1,1,1-Trichloroethane	2800	16000	100000	/J 580000
Carbon Tetrachloride	2800	18000	Not Detected	/VJ Not Detected
Benzene	2800	9200	100000	/J 340000
1,2-Dichloroethane	2800	12000	Not Detected	/VJ Not Detected
Trichloroethene	2800	15000	58000	/J 320000
1,2-Dichloropropane	2800	13000	1100 J	/J 5400 J
cis-1,3-Dichloropropene	2800	13000	Not Detected	/VJ Not Detected
Toluene	2800	11000	590000	/J 2300000
trans-1,3-Dichloropropene	2800	13000	Not Detected	/VJ Not Detected
1,1,2-Trichloroethane	2800	16000	Not Detected	/VJ Not Detected
Tetrachloroethene	2800	19000	83000	/J 570000
Chlorobenzene	2800	13000	Not Detected	/VJ Not Detected
Ethyl Benzene	2800	12000	56000	/J 250000
m,p-Xylene	2800	12000	270000	/J 1200000
o-Xylene	2800	12000	80000	/J 350000
Styrene	2800	12000	Not Detected	/VJ Not Detected
1,1,2,2-Tetrachloroethane	2800	20000	Not Detected	/VJ Not Detected
Acetone	11000	27000	62000	/J 150000
Carbon Disulfide	11000	36000	Not Detected	/VJ Not Detected
trans-1,2-Dichloroethene	11000	45000	Not Detected	/VJ Not Detected
2-Butanone (Methyl Ethyl Ketone)	11000	34000	51000	/J 150000
Bromodichloromethane	11000	77000	Not Detected	/VJ Not Detected
4-Methyl-2-pentanone	11000	47000	18000	/J 77000
2-Hexanone	11000	47000	Not Detected	/VJ Not Detected
Dibromochloromethane	11000	98000	Not Detected	/VJ Not Detected
Bromoform	11000	120000	Not Detected	/VJ Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

Lt
2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN2-JANA

ID#: 030134SAR1-03A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	d012810	Date of Collection:	1/16/03
Dil Factor:	5640	Date of Analysis:	1/28/03

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	105	70-130

LT
2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 EF1-JANA

ID#: 0301345B-01A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	Y012307	Date of Collection:	1/16/03
Dil Factor:	1.00	Date of Analysis:	1/23/03
		Date of Extraction:	1/20/03

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	Not Detected
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	Not Detected
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

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2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 EF1-JANA

ID#: 0301345B-01A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	Y012307	Date of Collection:	1/16/03
Dil. Factor:	100	Date of Analysis:	1/23/03
		Date of Extraction:	1/20/03

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	0.36 J
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	82	50-150
Phenol-d5	90	50-150
Nitrobenzene-d5	89	50-150
2-Fluorobiphenyl	82	60-120
2,4,6-Tribromophenol	90	50-150
Terphenyl-d14	91	60-120

UT
2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN1-JANA

ID#: 0301345B-02A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y012309	Date of Collection:	2/16/03
Dil. Factor:	100	Date of Analysis:	1/23/03
		Date of Extraction:	1/20/03

Compound	Rpt. Limit (ug)	Amount (ug)	
Phenol	5.0	Not Detected	IR
bis(2-Chloroethyl) Ether	1.0	28	1J
2-Chlorophenol	5.0	Not Detected	IR
1,3-Dichlorobenzene	1.0	1.9	1J
1,4-Dichlorobenzene	1.0	4.8	1J
1,2-Dichlorobenzene	1.0	54	1J
2-Methylphenol (o-Cresol)	5.0	Not Detected	IR
N-Nitroso-di-n-propylamine	1.0	Not Detected	IR
4-Methylphenol	5.0	Not Detected	IR
Hexachloroethane	1.0	Not Detected	IR
Nitrobenzene	1.0	Not Detected	IR
Isophorone	1.0	24	1J
2-Nitrophenol	5.0	Not Detected	IR
2,4-Dimethylphenol	5.0	1.9 J	1J
bis(2-Chloroethoxy) Methane	1.0	Not Detected	IR
2,4-Dichlorophenol	5.0	Not Detected	IR
1,2,4-Trichlorobenzene	1.0	1.3	1J
Naphthalene	1.0	28	1J
4-Chloroaniline	10	Not Detected	IR
Hexachlorobutadiene	1.0	0.70 J	1J
4-Chloro-3-methylphenol	5.0	Not Detected	IR
2-Methylnaphthalene	1.0	3.2	1J
Hexachlorocyclopentadiene	20	Not Detected	IR
2,4,6-Trichlorophenol	5.0	Not Detected	IR
2,4,5-Trichlorophenol	5.0	Not Detected	IR
2-Chloronaphthalene	1.0	Not Detected	IR
2-Nitroaniline	10	Not Detected	IR
Dimethylphthalate	5.0	Not Detected	IR
Acenaphthylene	1.0	Not Detected	IR
2,6-Dinitrotoluene	5.0	Not Detected	IR
3-Nitroaniline	10	Not Detected	IR
Acenaphthene	1.0	Not Detected	IR
2,4-Dinitrophenol	20	Not Detected	IR
4-Nitrophenol	20	Not Detected	IR
2,4-Dinitrotoluene	5.0	Not Detected	IR
Dibenzofuran	1.0	Not Detected	IR
Diethylphthalate	5.0	Not Detected	IR
Fluorene	1.0	Not Detected	IR
4-Chlorophenyl-phenyl Ether	1.0	Not Detected	IR
4-Nitroaniline	10	Not Detected	IR
4,6-Dinitro-2-methylphenol	10	Not Detected	IR

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN1-JANA

ID#: 0301345B-02A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	Y012309	Date of Collection:	1/16/03
DIL Factor:	1.00	Date of Analysis:	1/20/03
		Date of Extraction:	1/20/03

Compound	Rpt. Limit (μ g)	Amount (μ g)	
N-Nitrosodiphenylamine	10	Not Detected	IR
4-Bromophenyl-phenyl Ether	1.0	Not Detected	IR
Hexachlorobenzene	1.0	Not Detected	IR
Pentachlorophenol	20	Not Detected	IR
Phenanthrene	1.0	Not Detected	IR
Anthracene	1.0	Not Detected	IR
di-n-Butylphthalate	5.0	Not Detected	IR
Fluoranthene	1.0	Not Detected	IR
Pyrene	1.0	Not Detected	IR
Butylbenzylphthalate	5.0	Not Detected	IR
3,3'-Dichlorobenzidine	20	Not Detected	IR
Chrysene	1.0	Not Detected	IR
Benzo(a)anthracene	1.0	Not Detected	IR
bis(2-Ethylhexyl)phthalate	5.0	Not Detected	IR
Di-n-Octylphthalate	5.0	Not Detected	IR
Benzo(b)fluoranthene	1.0	Not Detected	IR
Benzo(k)fluoranthene	1.0	Not Detected	IR
Benzo(a)pyrene	1.0	Not Detected	IR
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected	IR
Dibenz(a,h)anthracene	1.0	Not Detected	IR
Benzo(g,h,i)perylene	1.0	Not Detected	IR

J = Estimated value.

Q = Exceeds Quality Control limits.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	0.70 Q	50-150
Phenol-d5	79	50-150
Nitrobenzene-d5	85	50-150
2-Fluorobiphenyl	86	60-120
2,4,6-Tribromophenol	77	50-150
Terphenyl-d14	92	60-120

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2/26/03

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN2-JANA

ID#: 0301345B-03A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	V012310	Date of Collection:	1/16/03
Dil. Factor:	1.00	Date of Analysis:	1/23/03
		Date of Extraction:	1/20/03

Compound	Rpt. Limit (ug)	Amount (ug)	
Phenol	5.0	Not Detected	
bis(2-Chloroethyl) Ether	1.0	27	
2-Chlorophenol	5.0	Not Detected	
1,3-Dichlorobenzene	1.0	1.8	
1,4-Dichlorobenzene	1.0	5.0	
1,2-Dichlorobenzene	1.0	53	
2-Methylphenol (o-Cresol)	5.0	Not Detected	
N-Nitroso-di-n-propylamine	1.0	Not Detected	
4-Methylphenol	5.0	Not Detected	
Hexachloroethane	1.0	Not Detected	
Nitrobenzene	1.0	Not Detected	
Isophorone	1.0	24	
2-Nitrophenol	5.0	Not Detected	
2,4-Dimethylphenol	5.0	1.8 J	15
bis(2-Chloroethoxy) Methane	1.0	Not Detected	
2,4-Dichlorophenol	5.0	Not Detected	
1,2,4-Trichlorobenzene	1.0	1.5	
Naphthalene	1.0	29	
4-Chloroaniline	10	Not Detected	
Hexachlorobutadiene	1.0	0.75 J	15
4-Chloro-3-methylphenol	5.0	Not Detected	
2-Methylnaphthalene	1.0	3.3	
Hexachlorocyclopentadiene	20	Not Detected	
2,4,6-Trichlorophenol	5.0	Not Detected	
2,4,5-Trichlorophenol	5.0	Not Detected	
2-Chloronaphthalene	1.0	Not Detected	
2-Nitroaniline	10	Not Detected	
Dimethylphthalate	5.0	Not Detected	
Acenaphthylene	1.0	Not Detected	
2,6-Dinitrotoluene	5.0	Not Detected	
3-Nitroaniline	10	Not Detected	
Acenaphthene	1.0	Not Detected	
2,4-Dinitrophenol	20	Not Detected	
4-Nitrophenol	20	Not Detected	
2,4-Dinitrotoluene	5.0	Not Detected	
Dibenzofuran	1.0	Not Detected	
Diethylphthalate	5.0	Not Detected	
Fluorene	1.0	Not Detected	
4-Chlorophenyl-phenyl Ether	1.0	Not Detected	
4-Nitroaniline	10	Not Detected	
4,6-Dinitro-2-methylphenol	10	Not Detected	

AIR TOXICS LTD.

SAMPLE NAME: ACS-ME 205 IN2-JANA

ID#: 0301345B-03A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name	V012310	Date of Collection	1/16/03
Dil. Factor	1.00	Date of Analysis	1/23/03
		Date of Extraction	1/20/03

Compound	Rpt. Limit (μ g)	Amount (μ g)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Q = Exceeds Quality Control limits.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	20 Q	50-150
Phenol-d5	79	50-150
Nitrobenzene-d5	81	50-150
2-Fluorobiphenyl	85	60-120
2,4,6-Tribromophenol	82	50-150
Terphenyl-d14	93	60-120

LH
2/26/03

February 13, 2003 Off-Gas Sample Laboratory Results

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 EF1 FEBA

ID#: 0302303-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	1022009	Date of Collection:	2/13/03
Dil Factor:	26.0	Date of Analysis:	2/20/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	13	27	45	94
Vinyl Chloride	13	34	55	140
Bromomethane	13	51	Not Detected	Not Detected
Chloroethane	13	35	9.6 J	26 J
1,1-Dichloroethene	13	52	250	1000
Methylene Chloride	13	46	1000	3600
1,1-Dichloroethane	13	53	150	610
cis-1,2-Dichloroethene	13	52	460	1800
Chloroform	13	64	55	270
1,1,1-Trichloroethane	13	72	910	5100
Carbon Tetrachloride	13	83	Not Detected	Not Detected
Benzene	13	42	1000	3300
1,2-Dichloroethane	13	53	Not Detected	Not Detected
Trichloroethene	13	71	570	3100
1,2-Dichloropropane	13	61	8.8 J	41 J
cis-1,3-Dichloropropene	13	60	Not Detected	Not Detected
Toluene	13	50	3600	14000
trans-1,3-Dichloropropene	13	60	Not Detected	Not Detected
1,1,2-Trichloroethane	13	72	Not Detected	Not Detected
Tetrachloroethene	13	90	730	5000
Chlorobenzene	13	61	7.2 J	34 J
Ethyl Benzene	13	57	320	1400
m,p-Xylene	13	57	1200	5500
o-Xylene	13	57	360	1600
Styrene	13	56	40	170
1,1,2,2-Tetrachloroethane	13	91	Not Detected	Not Detected
Acetone	52	120	570	1400
Carbon Disulfide	52	160	Not Detected	Not Detected
trans-1,2-Dichloroethene	52	210	34 J	140 J
2-Butanone (Methyl Ethyl Ketone)	52	160	500	1500
Bromodichloromethane	52	350	Not Detected	Not Detected
4-Methyl-2-pentanone	52	220	150	620
2-Hexanone	52	220	16 J	67 J
Dibromochloromethane	52	450	Not Detected	Not Detected
Bromoform	52	550	Not Detected	JR Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

UT
3/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 EF1 FEBA

ID#: 0302303-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	t022009	Date of Collection:	2/13/03
Dil. Factor:	26.0	Date of Analysis:	2/20/03

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN1 FEBA

ID#: 0302303-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d022106	Date of Collection:	2/13/03
Dil Factor:	5200	Date of Analysis:	2/21/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	2600	5400	1700 J	3600 J
Vinyl Chloride	2600	6800	1900 J	5100 J
Bromomethane	2600	10000	Not Detected	Not Detected
Chloroethane	2600	7000	1100 J	2800 J
1,1-Dichloroethene	2600	10000	2500 J	9900 J
Methylene Chloride	2600	9200	160000	550000
1,1-Dichloroethane	2600	11000	24000	97000
cis-1,2-Dichloroethene	2600	10000	51000	210000
Chloroform	2600	13000	5900	29000
1,1,1-Trichloroethane	2600	14000	130000	720000
Carbon Tetrachloride	2600	17000	Not Detected	Not Detected
Benzene	2600	8400	120000	380000
1,2-Dichloroethane	2600	11000	Not Detected	Not Detected
Trichloroethene	2600	14000	66000	360000
1,2-Dichloropropane	2600	12000	1200 J	5700 J
cis-1,3-Dichloropropene	2600	12000	Not Detected	Not Detected
Toluene	2600	10000	490000	1900000
trans-1,3-Dichloropropene	2600	12000	Not Detected	Not Detected
1,1,2-Trichloroethane	2600	14000	Not Detected	Not Detected
Tetrachloroethene	2600	18000	79000	550000
Chlorobenzene	2600	12000	Not Detected	Not Detected
Ethyl Benzene	2600	11000	45000	200000
m,p-Xylene	2600	11000	180000	800000
α -Xylene	2600	11000	52000	230000
Styrene	2600	11000	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	2600	18000	Not Detected	Not Detected
Acetone	10000	25000	97000	230000
Carbon Disulfide	10000	33000	860 J	2700 J
trans-1,2-Dichloroethene	10000	42000	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	10000	31000	86000	260000
Bromodichloromethane	10000	71000	Not Detected	Not Detected
4-Methyl-2-pentanone	10000	43000	3900 J	16000 J
2-Hexanone	10000	43000	Not Detected	Not Detected
Dibromochloromethane	10000	90000	Not Detected	Not Detected
Bromoform	10000	110000	Not Detected	JR Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

1H
2/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN1 FEBA

ID#: 0302303-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d022106	Date of Collection:	2/13/03
Dil Factor:	5200	Date of Analysis:	2/21/03

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

LH
3/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN2 FEBA

ID#: 0302303-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d022107	Date of Collection:	2/13/03
Dil Factor:	5280	Date of Analysis:	2/21/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	2600	5500	1400 J	3000 J
Vinyl Chloride	2600	6800	1800 J	4800 J
Bromomethane	2600	10000	Not Detected	Not Detected
Chloroethane	2600	7100	1200 J	3200 J
1,1-Dichloroethene	2600	11000	2200 J	9100 J
Methylene Chloride	2600	9300	150000	540000
1,1-Dichloroethane	2600	11000	23000	93000
cis-1,2-Dichloroethene	2600	11000	52000	210000
Chloroform	2600	13000	5800	29000
1,1,1-Trichloroethane	2600	15000	130000	710000
Carbon Tetrachloride	2600	17000	Not Detected	Not Detected
Benzene	2600	8600	110000	360000
1,2-Dichloroethane	2600	11000	Not Detected	Not Detected
Trichloroethene	2600	14000	64000	350000
1,2-Dichloropropane	2600	12000	1200 J	5500 J
cis-1,3-Dichloropropene	2600	12000	Not Detected	Not Detected
Toluene	2600	10000	480000	1800000
trans-1,3-Dichloropropene	2600	12000	Not Detected	Not Detected
1,1,2-Trichloroethane	2600	15000	Not Detected	Not Detected
Tetrachloroethene	2600	18000	78000	540000
Chlorobenzene	2600	12000	Not Detected	Not Detected
Ethyl Benzene	2600	12000	48000	210000
m,p-Xylene	2600	12000	190000	850000
o-Xylene	2600	12000	56000	240000
Styrene	2600	11000	2600 J	11000 J
1,1,2,2-Tetrachloroethane	2600	18000	Not Detected	Not Detected
Acetone	10000	25000	96000	230000
Carbon Disulfide	10000	33000	980 J	3100 J
trans-1,2-Dichloroethene	10000	42000	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	10000	32000	91000	270000
Bromodichloromethane	10000	72000	Not Detected	Not Detected
4-Methyl-2-pentanone	10000	44000	4000 J	17000 J
2-Hexanone	10000	44000	Not Detected	Not Detected
Dibromochloromethane	10000	91000	Not Detected	Not Detected
Bromoform	10000	110000	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

LA
3/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN2 FEBA

ID#: 0302303-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d022107	Date of Collection:	2/13/03
Dil. Factor:	5280	Date of Analysis:	2/21/03

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130

44
3/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 EF1 FEBA

ID#: 0302277-01A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	k022411	Date of Collection:	2/13/03
Dil. Factor:	1.00	Date of Analysis:	2/24/03
		Date of Extraction:	2/18/03

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected
1,4-Dichlorobenzene	1.0	0.69 J
1,2-Dichlorobenzene	1.0	6.8
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	2.0
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	2.7
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	Not Detected
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 EF1 FEBA

ID#: 0302277-01A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	k022411	Date of Collection:	2/13/03
Dil Factor:	1.00	Date of Analysis:	2/24/03
		Date of Extraction:	2/18/03

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	73	50-150
Phenol-d5	86	50-150
Nitrobenzene-d5	82	50-150
2-Fluorobiphenyl	80	60-120
2,4,6-Tribromophenol	75	50-150
Terphenyl-d14	82	60-120

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN1 FEBA

ID#: 0302277-02A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	K022414	Date of Collection:	2/13/03
Dil Factor:	1.00	Date of Analysis:	2/24/03
		Date of Extraction:	2/18/03

Compound	Rpt. Limit (ug)	Amount (ug)	
Phenol	5.0	Not Detected	IR
bis(2-Chloroethyl) Ether	1.0	Not Detected	IR
2-Chlorophenol	5.0	Not Detected	IR
1,3-Dichlorobenzene	1.0	1.7	IJ
1,4-Dichlorobenzene	1.0	5.7	IJ
1,2-Dichlorobenzene	1.0	55	IJ
2-Methylphenol (o-Cresol)	5.0	Not Detected	IR
N-Nitroso-di-n-propylamine	1.0	Not Detected	IR
4-Methylphenol	5.0	Not Detected	IR
Hexachloroethane	1.0	Not Detected	IR
Nitrobenzene	1.0	Not Detected	IR
Isophorone	1.0	19	IJ
2-Nitrophenol	5.0	Not Detected	IR
2,4-Dimethylphenol	5.0	Not Detected	IR
bis(2-Chloroethoxy) Methane	1.0	Not Detected	IR
2,4-Dichlorophenol	5.0	Not Detected	IR
1,2,4-Trichlorobenzene	1.0	1.2	IJ
Naphthalene	1.0	24	IJ
4-Chloroaniline	10	Not Detected	IR
Hexachlorobutadiene	1.0	0.67 J	IJ
4-Chloro-3-methylphenol	5.0	Not Detected	IR
2-Methylnaphthalene	1.0	2.7	IJ
Hexachlorocyclopentadiene	20	Not Detected	IR
2,4,6-Trichlorophenol	5.0	Not Detected	IR
2,4,5-Trichlorophenol	5.0	Not Detected	IR
2-Chloronaphthalene	1.0	Not Detected	IR
2-Nitroaniline	10	Not Detected	IR
Dimethylphthalate	5.0	Not Detected	IR
Acenaphthylene	1.0	Not Detected	IR
2,6-Dinitrotoluene	5.0	Not Detected	IR
3-Nitroaniline	10	Not Detected	IR
Acenaphthene	1.0	Not Detected	IR
2,4-Dinitrophenol	20	Not Detected	IR
4-Nitrophenol	20	Not Detected	IR
2,4-Dinitrotoluene	5.0	Not Detected	IR
Dibenzofuran	1.0	Not Detected	IR
Diethylphthalate	5.0	Not Detected	IR
Fluorene	1.0	Not Detected	IR
4-Chlorophenyl-phenyl Ether	1.0	Not Detected	IR
4-Nitroaniline	10	Not Detected	IR
4,6-Dinitro-2-methylphenol	10	Not Detected	IR

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN1 FEBA

ID#: 0302277-02A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	k022414	Date of Collection:	2/13/03
Dil Factor:	1.00	Date of Analysis:	2/24/03
		Date of Extraction:	2/18/03

Compound	Rpt. Limit (ug)	Amount (ug)	
N-Nitrosodiphenylamine	10	Not Detected	IR
4-Bromophenyl-phenyl Ether	1.0	Not Detected	IR
Hexachlorobenzene	1.0	Not Detected	IR
Pentachlorophenol	20	Not Detected	IR
Phenanthrene	1.0	Not Detected	IR
Anthracene	1.0	Not Detected	IR
di-n-Butylphthalate	5.0	Not Detected	IR
Fluoranthene	1.0	Not Detected	IR
Pyrene	1.0	Not Detected	IR
Butylbenzylphthalate	5.0	Not Detected	IR
3,3'-Dichlorobenzidine	20	Not Detected	IR
Chrysene	1.0	Not Detected	IR
Benzo(a)anthracene	1.0	Not Detected	IR
bis(2-Ethylhexyl)phthalate	5.0	Not Detected	IR
Di-n-Octylphthalate	5.0	Not Detected	IR
Benzo(b)fluoranthene	1.0	Not Detected	IR
Benzo(k)fluoranthene	1.0	Not Detected	IR
Benzo(a)pyrene	1.0	Not Detected	IR
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected	IR
Dibenz(a,h)anthracene	1.0	Not Detected	IR
Benzo(g,h,i)perylene	1.0	Not Detected	IR

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
Nitrobenzene-d5	90	50-150
2-Fluorobiphenyl	78	60-120
2,4,6-Tribromophenol	63	50-150
Terphenyl-d14	80	60-120

LH
3/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN2 FEBA

ID#: 0302277-03A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	k022413	Date of Collection:	2/13/03
Dil. Factor:	1.00	Date of Analysis:	2/24/03
		Date of Extraction:	2/18/03

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	Not Detected
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	Not Detected
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

UH
3/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME 205 IN2 FEBA

ID#: 0302277-03A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	k022413	Date of Collection:	2/13/03
Dil. Factor:	1.00	Date of Analysis:	2/24/03
		Date of Extraction:	2/18/03

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	79	50-150
Phenol-d5	86	50-150
Nitrobenzene-d5	79	50-150
2-Fluorobiphenyl	79	60-120
2,4,6-Tribromophenol	76	50-150
Terphenyl-d14	83	60-120

March 6, 2003 Off-Gas Sample Laboratory Results

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN1 MAR6

ID#: 0303132A-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	031406	Date of Collection:	3/6/03
Dil. Factor:	2680	Date of Analysis:	3/14/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	1300	2800	Not Detected	Not Detected
Vinyl Chloride	1300	3500	940 J	2400 J
Bromomethane	1300	5300	Not Detected	Not Detected
Chloroethane	1300	3600	Not Detected	Not Detected
1,1-Dichloroethene	1300	5400	720 J	2900 J
Methylene Chloride	1300	4700	53000	190000
1,1-Dichloroethane	1300	5500	14000	58000
cis-1,2-Dichloroethene	1300	5400	62000	250000
Chloroform	1300	6600	5600	28000
1,1,1-Trichloroethane	1300	7400	92000	510000
Carbon Tetrachloride	1300	8600	Not Detected	Not Detected
Benzene	1300	4400	71000	230000
1,2-Dichloroethane	1300	5500	1900	7800
Trichloroethene	1300	7300	49000	270000
1,2-Dichloropropane	1300	6300	Not Detected	Not Detected
cis-1,3-Dichloropropene	1300	6200	Not Detected	Not Detected
Toluene	1300	5100	410000	1600000
trans-1,3-Dichloropropene	1300	6200	Not Detected	Not Detected
1,1,2-Trichloroethane	1300	7400	Not Detected	Not Detected
Tetrachloroethene	1300	9200	47000	320000
Chlorobenzene	1300	6300	Not Detected	Not Detected
Ethyl Benzene	1300	5900	49000	220000
m,p-Xylene	1300	5900	230000	1000000
o-Xylene	1300	5900	71000	310000
Styrene	1300	5800	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	1300	9400	Not Detected	Not Detected
Acetone	5400	13000	50000	120000
Carbon Disulfide	5400	17000	Not Detected	Not Detected
trans-1,2-Dichloroethene	5400	22000	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5400	16000	55000	160000
Bromodichloromethane	5400	36000	Not Detected	Not Detected
4-Methyl-2-pentanone	5400	22000	22000	94000
2-Hexanone	5400	22000	Not Detected	Not Detected
Dibromochloromethane	5400	46000	Not Detected	Not Detected
Bromoform	5400	56000	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130

UH
5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN1 MAR6

ID#: 0303132A-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	1031406	Date of Collection:	3/6/03
Dil. Factor:	2680	Date of Analysis:	3/14/03

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	100	70-130

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN2 MAR6

ID#: 0303132A-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	1031407	Date of Collection:	3/6/03
Dil. Factor:	2720	Date of Analysis:	3/14/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	1400	2800	Not Detected	Not Detected
Vinyl Chloride	1400	3500	930 J	2400 J
Bromomethane	1400	5400	Not Detected	Not Detected
Chloroethane	1400	3600	Not Detected	Not Detected
1,1-Dichloroethene	1400	5500	770 J	3100 J
Methylene Chloride	1400	4800	60000	210000
1,1-Dichloroethane	1400	5600	16000	64000
cis-1,2-Dichloroethene	1400	5500	64000	260000
Chloroform	1400	6700	6200	30000
1,1,1-Trichloroethane	1400	7500	100000	580000
Carbon Tetrachloride	1400	8700	Not Detected	Not Detected
Benzene	1400	4400	79000	260000
1,2-Dichloroethane	1400	5600	2100	8500
Trichloroethene	1400	7400	56000	310000
1,2-Dichloropropane	1400	6400	Not Detected	Not Detected
cis-1,3-Dichloropropene	1400	6300	Not Detected	Not Detected
Toluene	1400	5200	460000	1800000
trans-1,3-Dichloropropene	1400	6300	Not Detected	Not Detected
1,1,2-Trichloroethane	1400	7500	Not Detected	Not Detected
Tetrachloroethene	1400	9400	52000	360000
Chlorobenzene	1400	6400	Not Detected	Not Detected
Ethyl Benzene	1400	6000	52000	230000
m,p-Xylene	1400	6000	260000	1100000
o-Xylene	1400	6000	77000	340000
Styrene	1400	5900	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	1400	9500	Not Detected	Not Detected
Acetone	5400	13000	56000	140000
Carbon Disulfide	5400	17000	Not Detected	Not Detected
trans-1,2-Dichloroethene	5400	22000	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5400	16000	63000	190000
Bromodichloromethane	5400	37000	Not Detected	Not Detected
4-Methyl-2-pentanone	5400	23000	26000	110000
2-Hexanone	5400	23000	Not Detected	Not Detected
Dibromochloromethane	5400	47000	Not Detected	Not Detected
Bromoform	5400	57000	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	101	70-130

LT
5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN2 MAR6

ID#: 0303132A-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	031407	Date of Collection:	3/6/03
Dil Factor:	2720	Date of Analysis:	3/14/03

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	101	70-130

UH
5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN1 MAR6

ID#: 0303132B-01A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	Y031219	Date of Collection:	3/6/03
DIL Factor:	100	Date of Analysis:	3/12/03
		Date of Extraction:	3/7/03

Compound	Rpt. Limit (μ g)	Amount (μ g)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	1.3
1,4-Dichlorobenzene	1.0	3.6
1,2-Dichlorobenzene	1.0	30
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	5.5
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	18
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	1.7
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

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5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN1 MAR6

ID#: 0303132B-01A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	Y031219	Date of Collection:	3/6/03
Dil. Factor:	1.00	Date of Analysis:	3/12/03
		Date of Extraction:	3/7/03

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	56	50-150
Phenol-d5	75	50-150
Nitrobenzene-d5	84	50-150
2-Fluorobiphenyl	91	60-120
2,4,6-Tribromophenol	88	50-150
Terphenyl-d14	101	60-120

UT
5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN2 MAR6

ID#: 0303132B-02A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	y031211	Date of Collection:	3/6/03
Dil. Factor:	1.00	Date of Analysis:	3/12/03
		Date of Extraction:	3/7/03

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	2.6
1,4-Dichlorobenzene	1.0	7.6
1,2-Dichlorobenzene	1.0	65
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	12
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	43
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	1.3
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	4.6
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

LH
5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME 205IN2 MAR6

ID#: 0303132B-02A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	y031211	Date of Collection:	3/6/03
Dil. Factor:	1.00	Date of Analysis:	3/12/03
		Date of Extraction:	3/7/03

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	2.7 J
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Q = Exceeds Quality Control limits.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	26 Q	50-150
Phenol-d5	69	50-150
Nitrobenzene-d5	76	50-150
2-Fluorobiphenyl	76	60-120
2,4,6-Tribromophenol	65	50-150
Terphenyl-d14	85	60-120

AIR TOXICS LTD.

SAMPLE NAME: ACS ME205 IN1-MAR13

ID#: 0303265B-01A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	Y031904	Date of Collection:	3/13/03
Dil. Factor:	1.00	Date of Analysis:	3/19/03
		Date of Extraction:	3/14/03

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	2.9
1,4-Dichlorobenzene	1.0	8.7
1,2-Dichlorobenzene	1.0	67
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	9.5
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	39
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	1.0
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	4.6
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Choronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

LA
5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME205 IN1-MAR13

ID#: 0303265B-01A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name	031904	Date of Collection	3/13/03
Dil. Factor	1.00	Date of Analysis	3/19/03
		Date of Extraction	3/14/03

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	1.4 J /5
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Q = Exceeds Quality Control limits.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	28 Q	50-150
Phenol-d5	82	50-150
Nitrobenzene-d5	89	50-150
2-Fluorobiphenyl	89	60-120
2,4,6-Tribromophenol	66	50-150
Terphenyl-d14	95	60-120

WT
3/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME205 IN2-MAR13

ID#: 0303265B-02A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	Y031905	Date of Collection:	3/13/03
Dil. Factor:	1.00	Date of Analysis:	3/19/03
		Date of Extraction:	3/14/03

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	2.3
1,4-Dichlorobenzene	1.0	6.8
1,2-Dichlorobenzene	1.0	54
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	7.9
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	31
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	0.80 J
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	3.7
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

LT
5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME205 IN2-MAR13

ID#: 0303265B-02A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name	Y031905	Date of Collection	3/13/03
Dil. Factor	1:00	Date of Analysis	3/19/03
		Date of Extraction	3/14/03

Compound	Rpt. Limit (μ g)	Amount (μ g)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	2.4 J /J
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Q = Exceeds Quality Control limits.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	32 Q	50-150
Phenol-d5	75	50-150
Nitrobenzene-d5	87	50-150
2-Fluorobiphenyl	89	60-120
2,4,6-Tribromophenol	69	50-150
Terphenyl-d14	98	60-120

AIR TOXICS LTD.

SAMPLE NAME: ACS ME205 EFF1-MAR13

ID#: 0303265B-03A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	031906	Date of Collection:	3/13/03
Dil. Factor:	.00	Date of Analysis:	3/19/03
		Date of Extraction:	3/14/03

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected
1,2-Dichlorobenzene	1.0	0.53 J
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	Not Detected
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	Not Detected
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

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5/19/03

AIR TOXICS LTD.

SAMPLE NAME: ACS ME205 EFF1-MAR13

ID#: 0303265B-03A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	031906	Date of Collection:	3/13/03
Dil. Factor:	1.00	Date of Analysis:	3/19/03
		Date of Extraction:	3/14/03

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	2.0 J
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	77	50-150
Phenol-d5	78	50-150
Nitrobenzene-d5	85	50-150
2-Fluorobiphenyl	89	60-120
2,4,6-Tribromophenol	84	50-150
Terphenyl-d14	94	60-120